



ECOS User Manual

October 26

2012

*ECOS – SR-2
Production*

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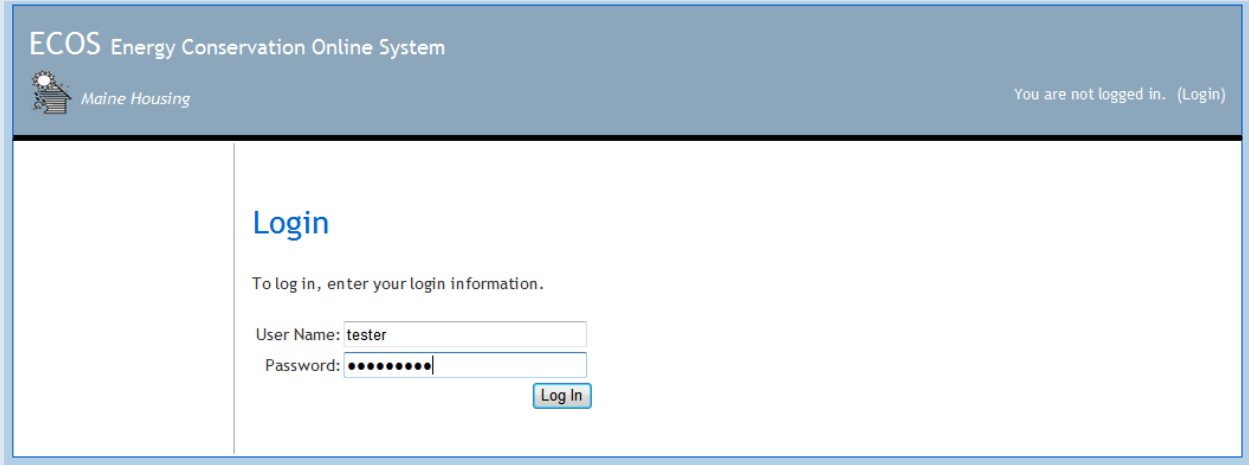
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1. Login

1. Open your internet browser
2. Type in the following address:

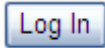
<https://ecos.mainehousing.org>

3. Next, enter in your designated user name and password



The screenshot shows the login interface for the ECOS Energy Conservation Online System. The header is blue and contains the text "ECOS Energy Conservation Online System" and a "Maine Housing" logo. On the right, it says "You are not logged in. (Login)". The main content area is white and features the heading "Login" in blue. Below this, it says "To log in, enter your login information." There are two input fields: "User Name:" with the text "tester" and "Password:" with masked characters. A blue "Log In" button is positioned to the right of the password field. At the bottom left, a small text reads "Developed by: JAI Software, Inc."

Figure 1-1

4. Click the  button to login to ECOS.

NOTE: If the user logging in is associated with more than one office in the system they will be prompted to select which office they are logging in as.

2. User Administration

The 'User Administration' screen is only visible to users with the appropriate permissions. This screen provides the ability to:

1. Create new users and assign these with rights and roles
2. Edit existing users' rights and roles
3. Reset password for users
4. Disable existing users from logging in to the system
5. Enable login access to the system for disabled users
6. Unlock users who have been locked because of 3 (or more) unsuccessful login attempts

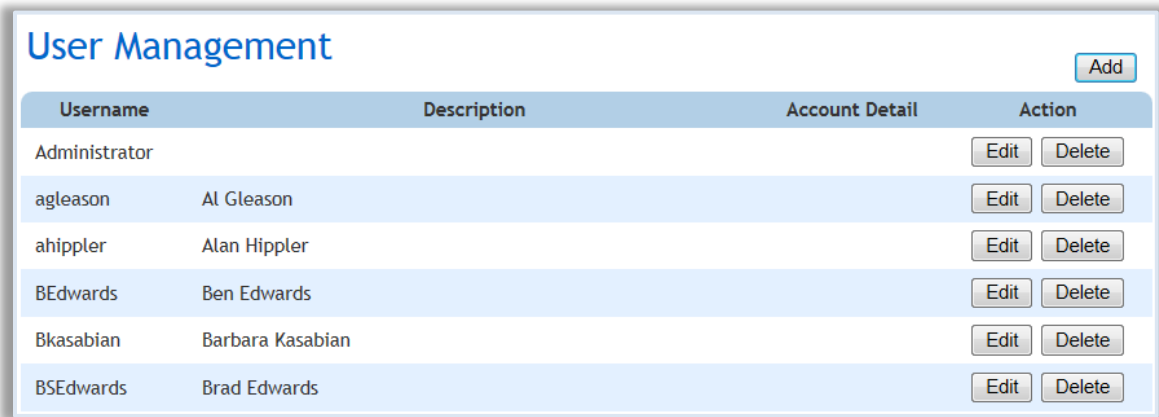
Roles

The following roles can be assigned to a user:

- **Admin** role >> has access to blank reports
- **BillingAdministration** role >> has ability to billing screens
- **BillPaidAdministration** role >>
- **DeleteEnergyAudit** role >> has ability to delete existing energy audits
- **DeleteJob** role >> has ability to delete existing jobs
- **EnergyAuditor** role >> has access to the Energy Audit-, Job, and Billing screens
- **Everyone** role >> has access to Welcome screen only
- **FinancialReviewer** role >>
- **ProgramAdministration** role >> has access to Program Administration
- **StaffAdministrator** role >> has access to User Administration

Create a new user

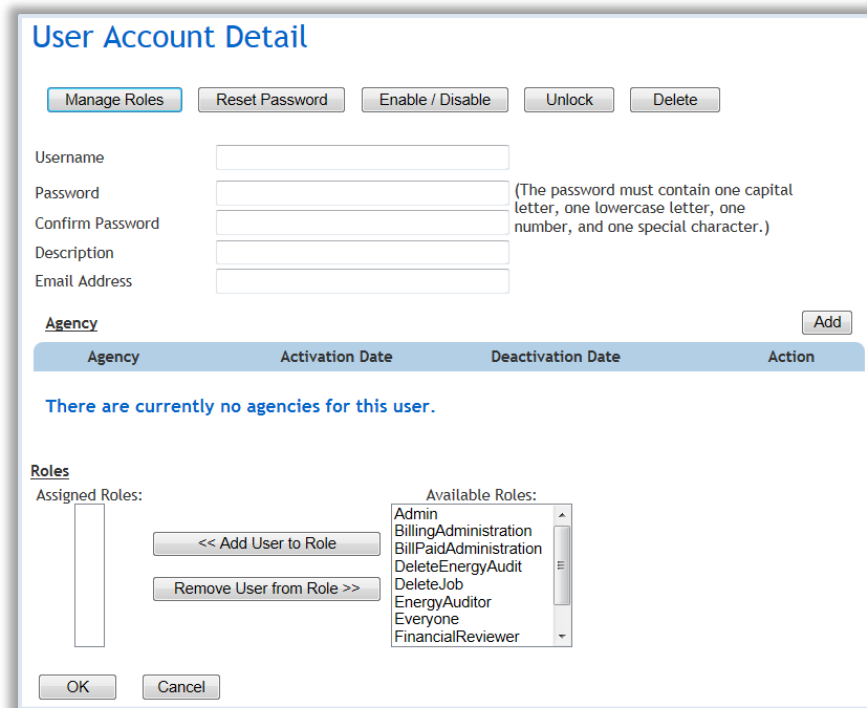
1. Click on User Administration menu item on the left



Username			Description	Account Detail	Action
Administrator					Edit Delete
agleason	Al Gleason				Edit Delete
ahippler	Alan Hippler				Edit Delete
BEdwards	Ben Edwards				Edit Delete
Bkasabian	Barbara Kasabian				Edit Delete
BSEdwards	Brad Edwards				Edit Delete

Figure 2-1

2. Click the **Add** button
3. Enter user's information



User Account Detail

Manage Roles **Reset Password** **Enable / Disable** **Unlock** **Delete**

Username

Password (The password must contain one capital letter, one lowercase letter, one number, and one special character.)

Confirm Password

Description

Email Address

Agency **Add**

Agency	Activation Date	Deactivation Date	Action
There are currently no agencies for this user.			

Roles

Assigned Roles:

<< Add User to Role

Remove User from Role >>

Available Roles:

- Admin
- BillingAdministration
- BillPaidAdministration
- DeleteEnergyAudit
- DeleteJob
- EnergyAuditor
- Everyone
- FinancialReviewer

OK **Cancel**

Figure 2-2

NOTE: Password must meet basic complexity requirements: At least 6 characters long, contain at least one uppercase letter, one lower case letter, and at least one number or symbol.

4. Click the  button to add an Agency to the user

NOTE: The agency assigned to a user limits the user's view/access to audits, jobs, and billing. Meaning, a user assigned with the agency of KVCAP only has access to audits, jobs, and billing created by KVCAP users. So a KVCAP user cannot access audits, jobs, and/or billing created by a CCI user.

NOTE: Multiple agencies can be assigned to one user.

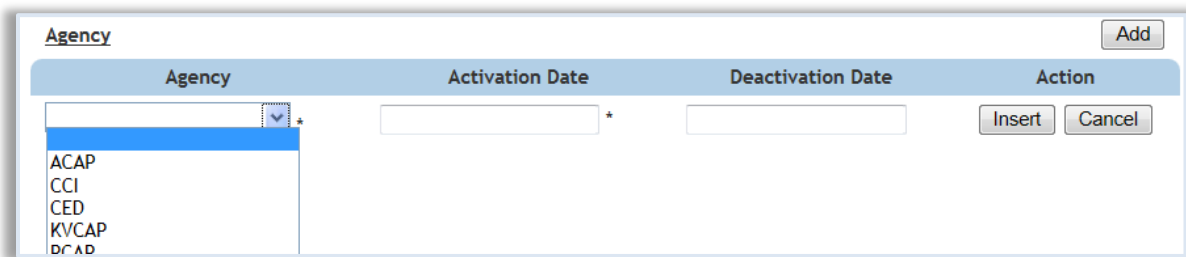


Figure 2-3

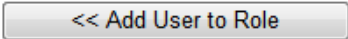
5. Click the down arrow for the Agency cell and select the appropriate agency

6. Enter activation date

NOTE: The activation restricts the earliest date from which the user can login to the system.

NOTE: The deactivation date restricts the latest date for which the user can login to the system.

7. Assign roles to user by highlighting roles available and clicking the button



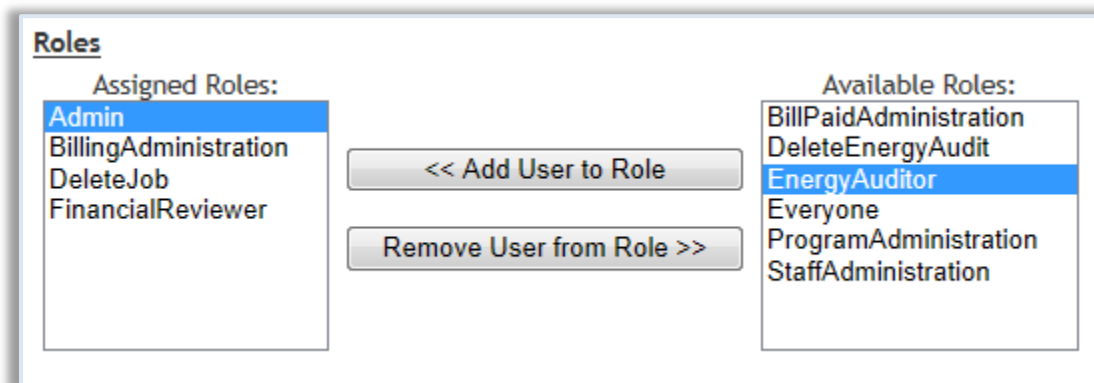


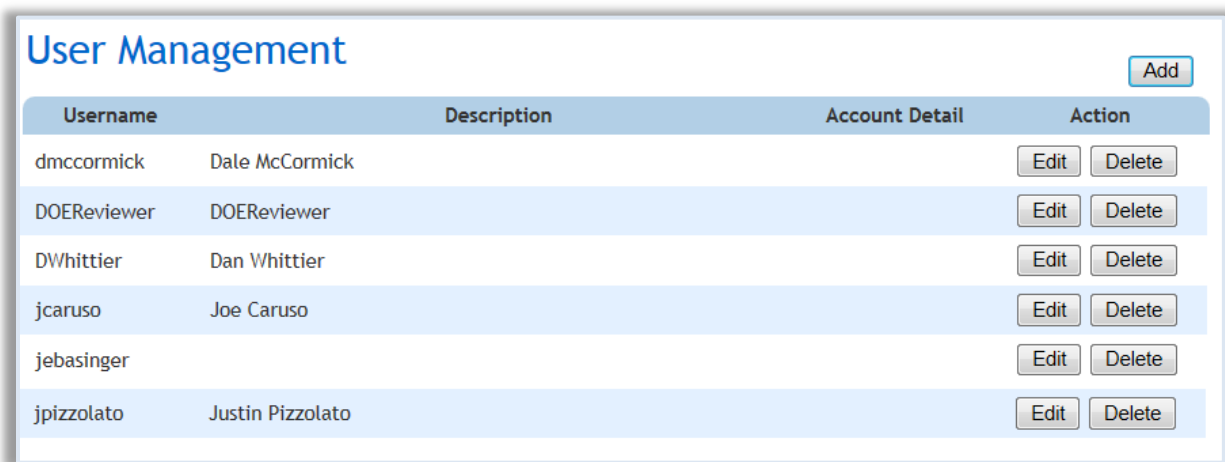
Figure 2-4

8. Click the  button to finish

NOTE: Once the user information has been successfully saved, the user will be brought back to the main User Administration screen.

Edit/Manage Existing User

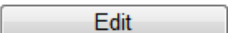
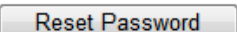
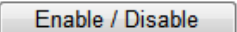
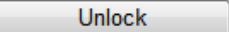
1. Click on the User Administration menu item on the left



The screenshot shows a web interface titled "User Management". In the top right corner, there is an "Add" button. Below the title is a table with four columns: "Username", "Description", "Account Detail", and "Action". The table contains six rows of user data. Each row has an "Edit" button and a "Delete" button in the "Action" column.

Username	Description	Account Detail	Action
dmccormick	Dale McCormick		<button>Edit</button> <button>Delete</button>
DOERviewer	DOERviewer		<button>Edit</button> <button>Delete</button>
DWhittier	Dan Whittier		<button>Edit</button> <button>Delete</button>
jcaruso	Joe Caruso		<button>Edit</button> <button>Delete</button>
jebasinger			<button>Edit</button> <button>Delete</button>
jpizzolato	Justin Pizzolato		<button>Edit</button> <button>Delete</button>

Figure 2-5

2. Locate the user in the grid and click the  button associated to that row
3. Next, select the desired action:
 - a. Click the  button to edit the user's office, description, and/or email address. The user can also remove existing role(s) or assign new role(s) from this screen.
 - b. Click the  button to reset the user's password
 - c. Click the  button to either 1) enable login capability to a disabled user, or 2) disable login capability to an active user
 - d. Click the  button to unlock a user – this functionality is used to unlock users who have unsuccessfully attempted to login 3 times and have therefore gotten their user account locked
 - e. Click the  button to delete a user. Please note that the delete button should only be used if the user was created by mistake. Otherwise, the user should be disabled.

3. Program Administration

The program administration area allows the user who has the role of ProgramAdministration to to:

1. Modify drop down boxes' content
2. Add, edit, and delete energy auditors who can be assigned to an audit
3. Add, Edit and delete Funding Sources
4. Add, edit and delete Offices
5. Manage Periodic Maintenance

CAA Admin

The CAA Administration allows the user with the role of ProgramAdminstrator to:

1. Add, edit, and delete weatherization technicians who can be assigned to a job; hereunder, also import and modify a technician's bid sheet(s).
2. Add, edit, and delete crew staff who can be assigned to a job
3. Add, edit, and delete heating technicians who can be assigned to a job

Wx Technicians

The weatherization (wx) technicians' section (Under CAA Administration) allows the user to add, edit, and delete auditors that can be assigned to a job.

Add

To add a new wx technician:

1. Click the  button

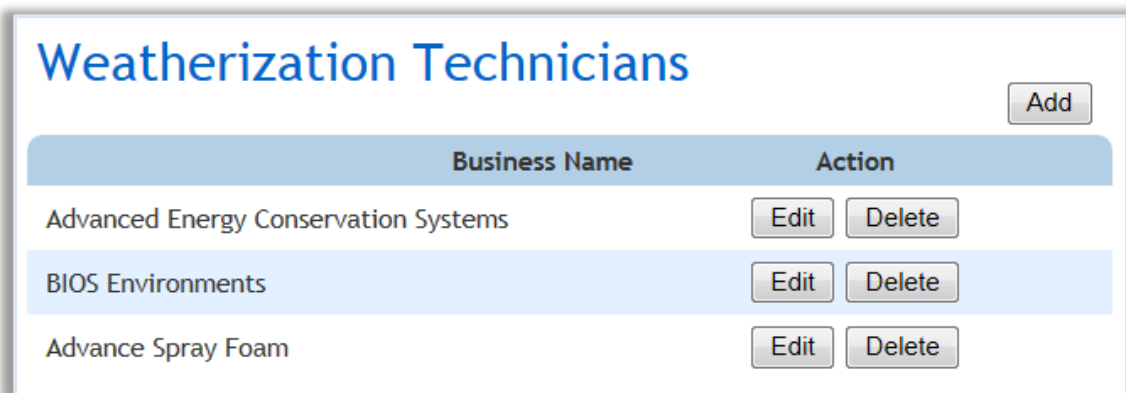


Figure
3-1

2. Type in the technician's organization information:

Add/Edit Wx Technician

Organization Name *	Wx Techs Inc	Is 1099 Vendor	☒
TIN	12345678	Description	Test technician

Figure 3-2

3. Type in the technician's contact information:

Address	Phone	E-Mail Address
---------	-------	----------------

Address Type	Address Line 1	Address Line 2	Address Line 3	Municipality

Figure 3-3

4. Click the button to add an address

Enter Address

Address Type		v
Address Line 1 *		
Address Line 2		
Address Line 3		
City, State Zip *		<-- Town Search
		v

OK

Figure 3-4

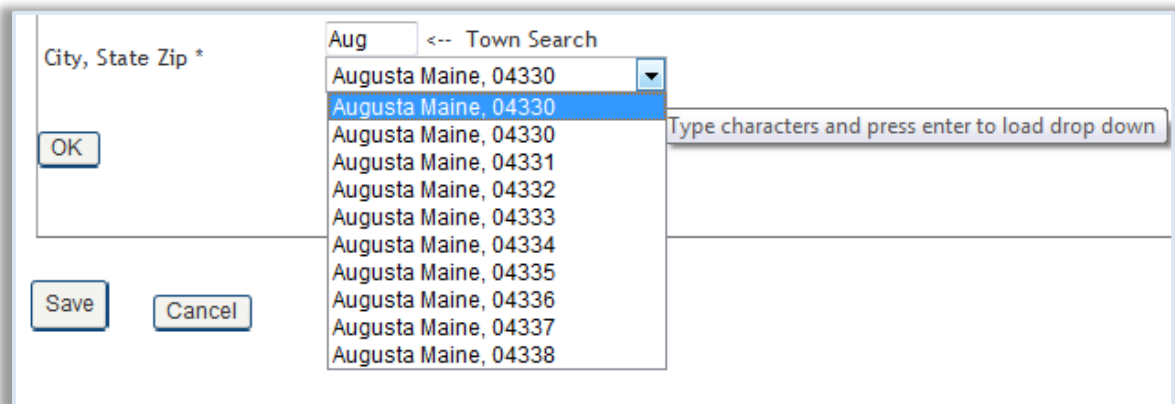
5. Select the appropriate address type from the drop down box.

The image shows a software dialog box titled "Enter Address". It contains several input fields and a dropdown menu. The fields are labeled "Address Type", "Address Line 1 *", "Address Line 2", "Address Line 3", and "City, State Zip *". The "Address Type" dropdown menu is open, displaying a list of options: "-Choose Address Type-", "Primary Mailing Address", "Remittance Address", "Physical Address", and "Alternate Mailing Address". An "OK" button is located at the bottom left of the dialog box.

Field Label	Value / Options
Address Type	-Choose Address Type- Primary Mailing Address Remittance Address Physical Address Alternate Mailing Address
Address Line 1 *	
Address Line 2	
Address Line 3	
City, State Zip *	

Figure 3-5

- Next, continue to type in the information for “Address Line 1”, and if needed, Line 2 and 3.



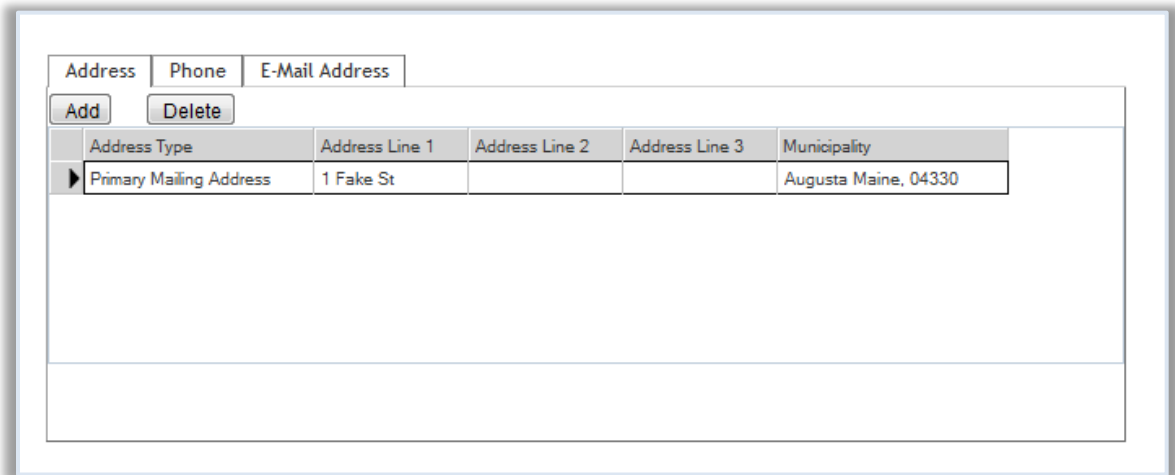
The screenshot shows a web form with a label "City, State Zip *" and an input field containing "Aug". A dropdown menu is open, titled "<-- Town Search", displaying a list of municipalities: "Augusta Maine, 04330" (highlighted), "Augusta Maine, 04330", "Augusta Maine, 04331", "Augusta Maine, 04332", "Augusta Maine, 04333", "Augusta Maine, 04334", "Augusta Maine, 04335", "Augusta Maine, 04336", "Augusta Maine, 04337", and "Augusta Maine, 04338". To the right of the dropdown is a text box with the placeholder "Type characters and press enter to load drop down". Below the input field are "OK", "Save", and "Cancel" buttons.

Figure 3-6

- Type in the first couple letters of the desired town and hit the ‘Enter’ key on your keyboard.

Note: This will do a search for all towns in the database beginning with these characters.

- Select the appropriate municipality from the drop down and click the  button. The address will now be displayed in the grid:



The screenshot shows a web form with tabs for "Address", "Phone", and "E-Mail Address". Below the tabs are "Add" and "Delete" buttons. A table displays address information:

	Address Type	Address Line 1	Address Line 2	Address Line 3	Municipality
▶	Primary Mailing Address	1 Fake St			Augusta Maine, 04330

Figure 3-7

Note: To edit the address, double click into the appropriate field and edit as needed.

9. Once the address information has been added, click on the phone tab:

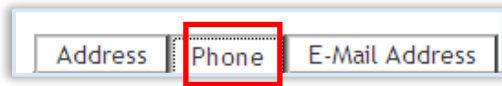


Figure 3-8

10. Click on the  button and double click into the phone type field.

A screenshot of the contact form with the 'Phone' tab selected. Below the tabs are 'Add' and 'Delete' buttons. A table with columns 'Phone Type', 'Number', 'Extension', 'Activation Date', and 'Deactivation Date' is visible. The 'Phone Type' dropdown menu is open, showing options: '-Choose Contact Type-', 'Business Telephone', 'Fax Line', 'Home Telephone', 'Message Telephone', and 'Cell Phone'. The 'Business Telephone' option is highlighted. The 'Number' field contains '() -' and the 'Activation Date' field contains '2/23/2011'.

Figure 3-9

11. Select the phone type from the drop down list and hit the 'Tab' key on your keyboard to continue entering in the number (and if appropriate the extension). You can also enter in the number by double clicking into the field instead.

12. Once the phone information has been added, click on the E-Mail Address tab:

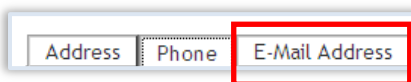
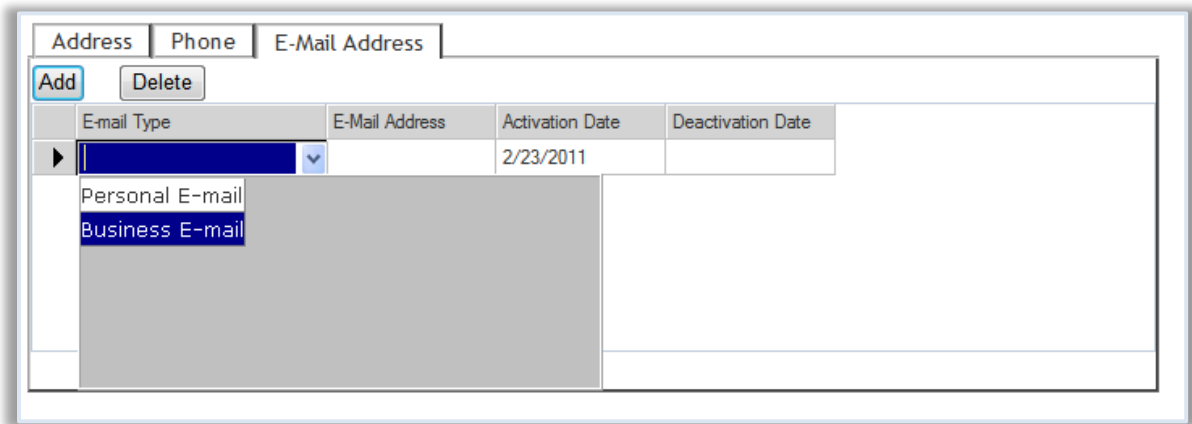


Figure 3-10

13. Next, click on the  button and double click into the 'E-mail Type' field.



E-mail Type	E-Mail Address	Activation Date	Deactivation Date
Personal E-mail		2/23/2011	
Business E-mail			

Figure 3-11

14. Select the E-mail Type from the drop down list and hit the 'Tab' key on your keyboard to continue entering in the E-Mail Address. You can also enter in the address by double clicking into the field instead.
15. If this is a Crew (Organization) check the *crew* checkbox (see section Add Crew for more details)
16. Next, import the technician's bid sheet (see process below) and click the  button to finish.

Import of bid sheet

The process for importing a bid sheet for a weatherization technician is continued from adding (or editing) a wx technician. Please refer to either of these sections in order to get to this screen.

To import a bid sheet:

- NOTE: The import-bid-sheet functionality is based on using a standard bid sheet. Please download a blank sheet, update with the correct bids, and upload it as shown below.
- NOTE: To download a blank bid sheet, please click on the appropriate **link** when editing (or adding a new) wx technician.

Technician Bid Import

Please select a bid to upload or download a blank bid sheet to fill out and upload.

[Download Blank Bid Sheet](#)

Bid Description:

Bid Activation Date:

Bid Deactivation Date:

Bid File:

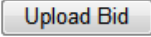
Wx Technician	Bid Description	Activation Date	Deactivation Date	Action
There are currently no bids uploaded for this technician.				

Figure 3-12

1. Type in the bid description, set the activation date and set the deactivation date for the bid.

NOTE: The activation date is the date at which the bid can first start to be used, and the deactivation date for the bid references when the bid is no longer to be used when creating jobs.

2. Click the button

3. Select the bid sheet located on your computer/network
4. Click the  button
5. Click the  button to finish
6. A bid will appear in the table at the bottom of the screen after being uploaded:

Wx Technician	Bid Description	Activation Date	Deactivation Date	Action
Test	Test Add Bid	01/01/2010	01/01/2013	 
 				

Figure 3-13

Edit existing bid sheet

In order to edit an existing Wx Technician bid, click the edit button for the bid you wish to modify. This will take you to the Bid Details screen. Once there, simply double click any cell in the Units, Material Cost, Unit Cost, Labor Hours, Labor Cost or Total Cost columns.

Bid Detail

Task	Material Cost	Hourly Cost	Labor Cost	Labor Hours	Total Cost	Action
010-036-0005 Incidental Repair - General Labor	\$0.00	\$1.00	\$1.00	1.00	\$1.00	Edit
010-036-0010 Incidental Labor - Electrician	\$0.00	\$1.00	\$1.00	1.00	\$1.00	Edit
061-102-0005 Framing 2X4	\$1.00	\$1.00	\$1.00	1.00	\$2.00	Edit
061-102-0010 Framing 2X6	\$1.00	\$1.00	\$1.00	1.00	\$2.00	Edit
061-102-0015 Framing 2X8	\$1.00	\$1.00	\$1.00	1.00	\$2.00	Edit
061-102-0020 Framing Pt 2X4	\$1.00	\$1.00	\$1.00	1.00	\$2.00	Edit
061-102-0025 Framing Pt 2X6	\$1.00	\$1.00	\$1.00	1.00	\$2.00	Edit
						Edit

Figure 3-14

Edit Wx Technician

To edit an existing weatherization technician:

1. Click on the wx technicians menu item on the left from the CAA Administration area

2. Click on the  button associated to the technician that needs to be edited
3. Next, edit the appropriate information
4. Click on the  button to finish

Delete Wx Technician

NOTE: Wx technicians should not be deleted unless they were created in the system by mistake.

To delete an existing wx technician:

1. Click on the wx technicians menu item on the left from the program administration area
2. Highlight (by single clicking on) the technician that needs to be deleted
3. Click the  button

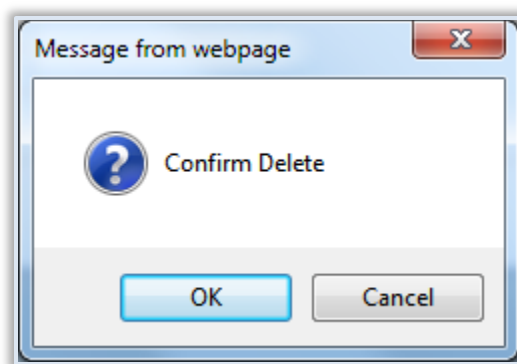
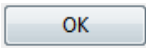


Figure 3-15

4. Click the  button to confirm to finish

Drop-Down Maintenance

The drop-down maintenance area contains a list of different drop downs, for which content can be modified.

The energy audit items allow the user to modify content within the energy audit section of ECOS: ex. Blower door test configuration, energy use type, heating system type, etc.

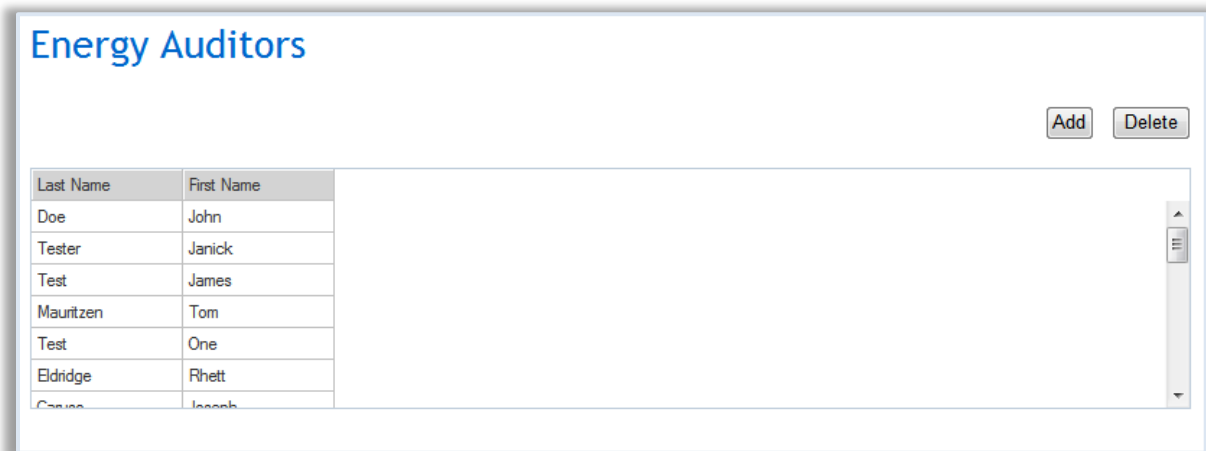
Energy Auditors

The energy auditors' section allows the user to add, edit and delete auditors that can be assigned to an audit.

Add

To add a new energy auditor:

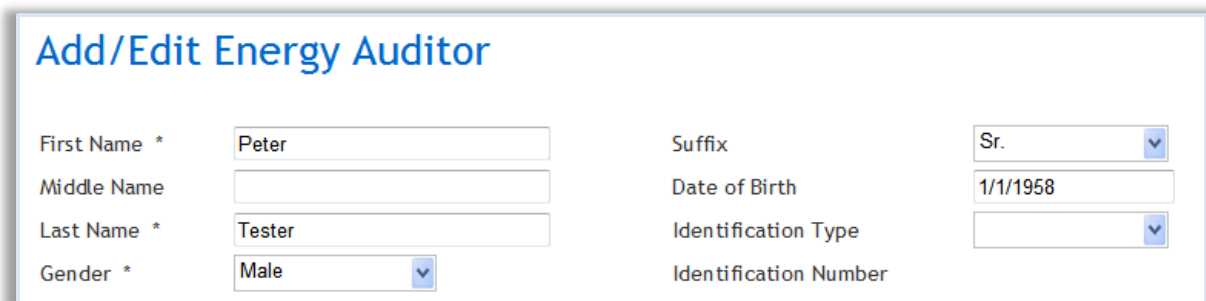
1. Click on the energy auditors menu item on the left from the program administration area
2. Click the  button



Last Name	First Name
Doe	John
Tester	Janick
Test	James
Mauritzen	Tom
Test	One
Eldridge	Rhett
Carpenter	Joseph

Figure 3-16

3. Type in energy auditor's personal information:



First Name *	Peter	Suffix	Sr. ▼
Middle Name		Date of Birth	1/1/1958
Last Name *	Tester	Identification Type	▼
Gender *	Male ▼	Identification Number	

Figure 3-17

4. Type in energy auditor's contact information:

The screenshot shows a software window with three tabs: "Address", "Phone", and "E-Mail Address". The "Address" tab is selected. Below the tabs are two buttons: "Add" and "Delete". Below the buttons is a table with the following columns: "Address Type", "Address Line 1", "Address Line 2", "Address Line 3", and "Municipality". The table is currently empty.

Figure 3-18

5. Click the  button to add an address

The screenshot shows a dialog box titled "Enter Address". It contains the following fields and controls:

- "Address Type": A dropdown menu.
- "Address Line 1 *": A text input field.
- "Address Line 2": A text input field.
- "Address Line 3": A text input field.
- "City, State Zip *": A text input field with a "<-- Town Search" label and a dropdown arrow.
- "OK": A button at the bottom left.

Figure 3-19

6. Select the appropriate address type from the drop down box.

Enter Address

Address Type

Address Line 1 *

Address Line 2

Address Line 3

City, State Zip *

OK

-Choose Address Type-
Primary Mailing Address
Remittance Address
Physical Address
Alternate Mailing Address

Figure 3-20

7. Next, continue to type in the information for “Address Line 1”, and if needed, Line 2 and 3.

City, State Zip *

Aug <-- Town Search

OK

Save Cancel

Augusta Maine, 04330
Augusta Maine, 04330
Augusta Maine, 04331
Augusta Maine, 04332
Augusta Maine, 04333
Augusta Maine, 04334
Augusta Maine, 04335
Augusta Maine, 04336
Augusta Maine, 04337
Augusta Maine, 04338

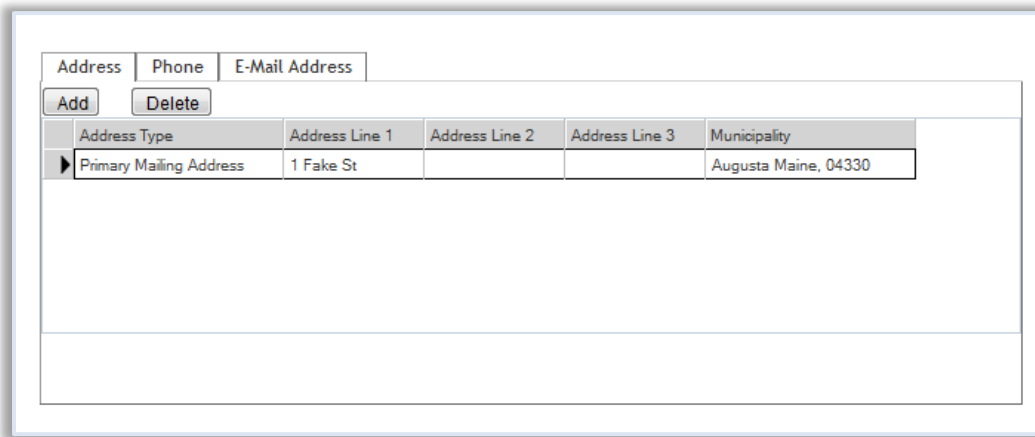
Type characters and press enter to load drop down

Figure 3-21

8. Type in the first couple letters of the desired town and hit the ‘Enter’ key on your keyboard.

Note: This will do a search for all towns in the database beginning with these characters.

9. Select the appropriate municipality from the drop down and click the  button. The address will now be displayed in the grid:



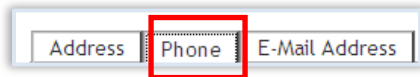
The screenshot shows a web interface for managing addresses. At the top, there are three tabs: "Address", "Phone", and "E-Mail Address". Below the tabs are two buttons: "Add" and "Delete". Below the buttons is a table with the following columns: "Address Type", "Address Line 1", "Address Line 2", "Address Line 3", and "Municipality". The table contains one row of data:

Address Type	Address Line 1	Address Line 2	Address Line 3	Municipality
Primary Mailing Address	1 Fake St			Augusta Maine, 04330

Figure 3-22

Note: To edit the address, double click into the appropriate field and edit as needed.

10. Once the address information has been added, click on the phone tab:



The screenshot shows the same tabbed interface as Figure 3-22. The "Address" tab is selected, but the "Phone" tab is highlighted with a red rectangle, indicating it is the next step to click.

Figure 3-23

11. Click on the  button and double click into the phone type field.

Phone Type	Number	Extension	Activation Date
Home Telephone			05/25/2010

Figure 3-24

12. Select the phone type from the drop down list and hit the 'Tab' key on your keyboard to continue entering in the number (and if appropriate the extension). You can also enter in the number by double clicking into the field instead.

13. Once the phone information has been added, click on the E-Mail Address tab:

Figure 3-25

14. Next, click on the  button and double click into the 'E-mail Type' field.

E-mail Type	E-Mail Address	Activation Date
Personal E-mail		05/25/2010
Business E-mail		

Figure 3-26

15. Select the E-mail Type from the drop down list and hit the 'Tab' key on your keyboard to continue entering in the E-Mail Address. You can also enter in the address by double clicking into the field instead.

16. Type in the auditor's training- and certification information:

Training Program

Initial Certification Date

Certification Expiration

Last Recertification

☐ Post Email To Web

Figure 3-27

17. Click on the button to finish

Edit

To edit an existing energy auditor:

1. Click on the energy auditors menu item on the left from the program administration area
2. Double click on the auditor that needs to be edited

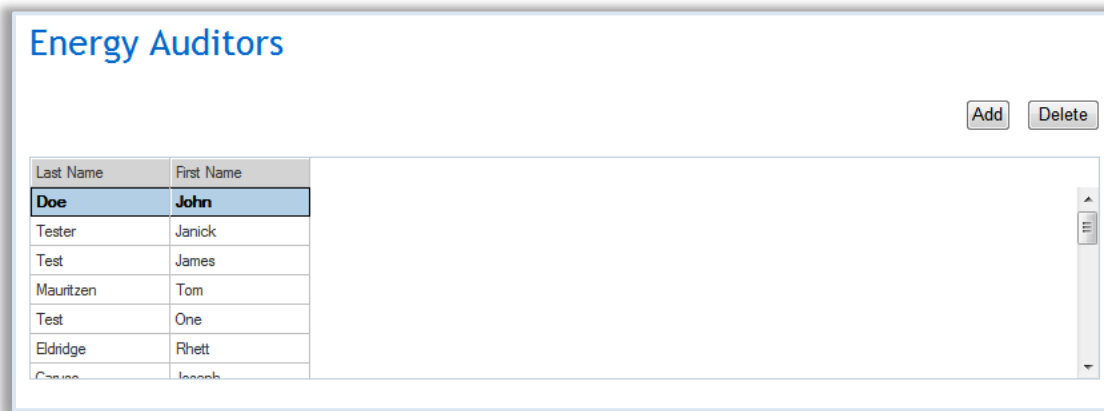


Figure 3-28

3. Next, edit the appropriate information

The screenshot shows the "Add/Edit Energy Auditor" form. It contains the following fields and sections:

- Personal Information:**
 - First Name *: John
 - Middle Name: L
 - Last Name *: Doe
 - Gender *: Male
 - Suffix: (dropdown menu)
 - Date of Birth: (text field)
 - Identification Type: Social Security
 - Identification Number: 0 - -
- Address Section:**
 - Tabs: Address, Phone, E-Mail Address
 - Buttons: Add, Delete
 - Table:

Address Type	Address Line 1	Address Line 2	Address Line 3	Municipality
Primary Mailing Address	Iadfoia lane			Abbot Maine, 04406
- Certification Information:**
 - Training Program: Maine State Auditor
 - Initial Certification Date: 11/10/2008
 - Certification Expiration: 11/1/2010
 - Last Recertification: (text field)
 - ☒ Post Email To Web

Figure 3-29

4. Click on the  button to finish

Delete

NOTE: Energy Auditors should not be deleted unless they were created in the system by mistake.

To delete an existing energy auditor:

1. Click on the energy auditors menu item on the left from the program administration area
2. Highlight (by single clicking on) the auditor that needs to be deleted

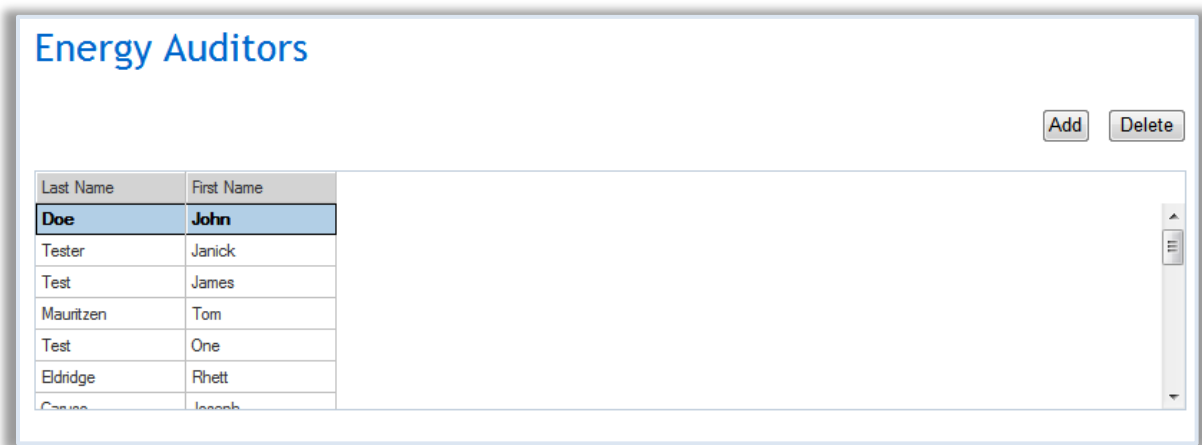


Figure 3-30

3. Click the  button

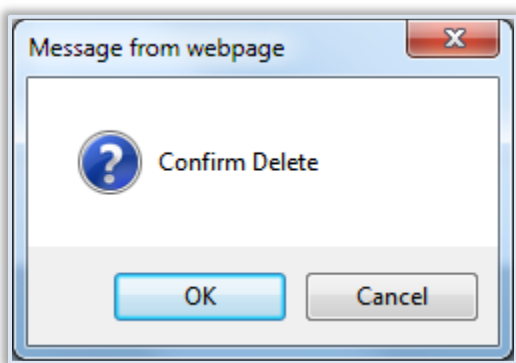
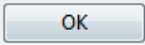


Figure 3-31

4. Click the  button to confirm to finish

NOTE: If the (attempted to be deleted) energy auditor is assigned to an audit, then the energy auditor cannot be deleted, and you will receive the following message:

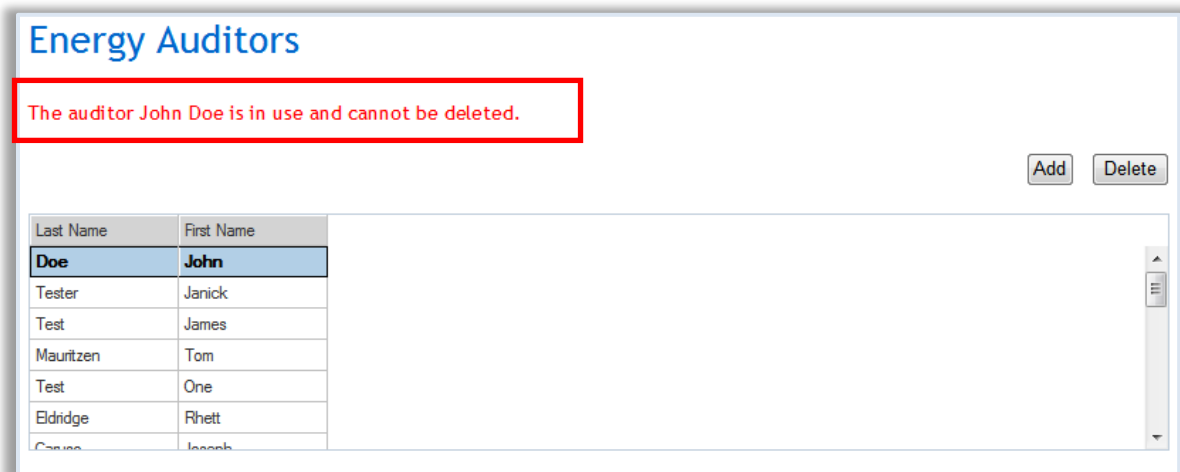


Figure 3-32

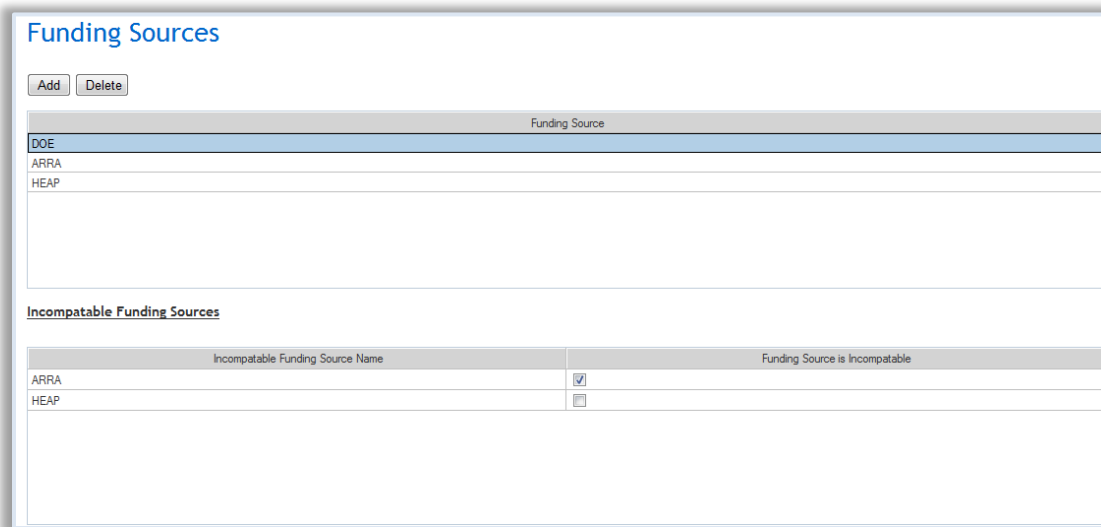
Funding Sources

The Funding Sources section of ECOS allows the user to add, edit and delete the funding sources to be used for billing.

Add

To add a new funding source:

1. Click the **Add** button.



The screenshot shows the "Funding Sources" screen. At the top, there are "Add" and "Delete" buttons. Below them is a table with the following data:

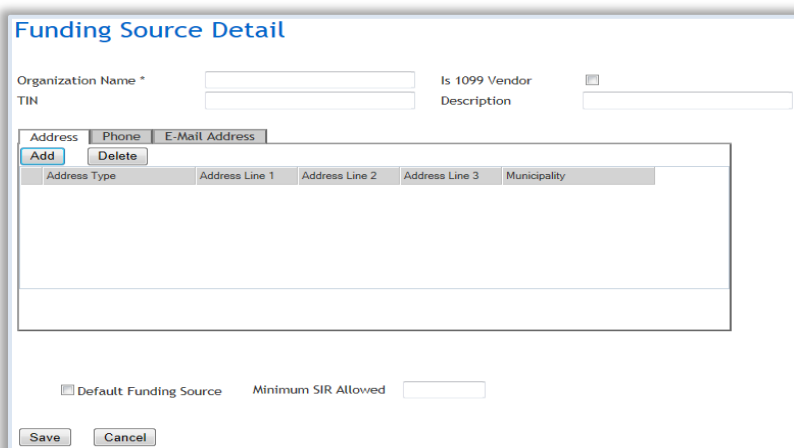
Funding Source
DOE
ARRA
HEAP

Below the table is a section titled "Incompatible Funding Sources". It contains a table with the following data:

Incompatible Funding Source Name	Funding Source is Incompatible
ARRA	☒
HEAP	☐

Figure 3-33

2. This will bring the user to the "Funding Source Detail" screen



The screenshot shows the "Funding Source Detail" screen. It contains the following fields and buttons:

- Organization Name *
- TIN
- Is 1099 Vendor ☐
- Description
- Address, Phone, E-Mail Address (tabs)
- Add, Delete (buttons)
- Address Type, Address Line 1, Address Line 2, Address Line 3, Municipality (fields)
- ☐ Default Funding Source
- Minimum SIR Allowed
- Save, Cancel (buttons)

Figure 3-34

3. The "Funding Source Detail" screen acts much like the "Create New User" and "Add Energy Auditor" sections previously covered in this document.

NOTE: The 'default funding source' check box should be marked for the funding source which should automatically be assigned to all billing.

NOTE: The 'default funding source' can only be set for one funding source. If you select a new or different funding source as the default, then the other default funding source will automatically get unmarked as the default without warning.

Edit

In order to edit a funding source:

1. Click and select the funding source you wish to modify.
2. After the screen refreshes (the "Incompatible Funding Sources" table will be populated).
3. Double click the already selected name of the funding source.
4. This will bring the user to the "Funding Source Detail" screen

Funding Source Detail

Organization Name * Is 1099 Vendor ☐

TIN Description

Address Phone E-Mail Address

Address Type	Address Line 1	Address Line 2	Address Line 3	Municipality
Primary Mailing Address	123 DOE Road			Gardiner, ME 04345

☐ Default Funding Source Minimum SIR Allowed

Figure 3-35

5. The “Funding Source Detail” screen acts much like the “Create New User” and “Add Energy Auditor” sections previously covered in this document.

NOTE: The ‘default funding source’ check box should be marked for the funding source which should automatically be assigned to all billing.

NOTE: The ‘default funding source’ can only be set for one funding source. If you select a new or different funding source as the default, then the other default funding source will automatically get unmarked as the default without warning.

Delete

NOTE: A funding source should not be deleted unless its creation in the system was a mistake.

In order to delete a funding source:

1. Click the name of the funding source you wish to remove.
2. Click the button.
3. A confirmation box will appear

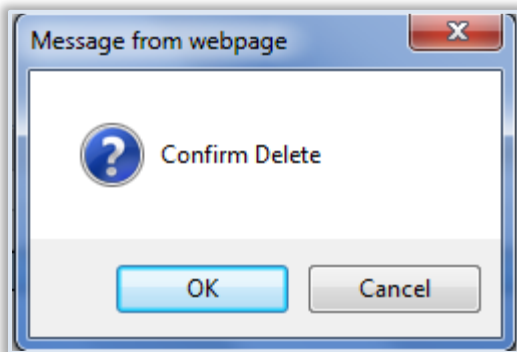


Figure 3-36

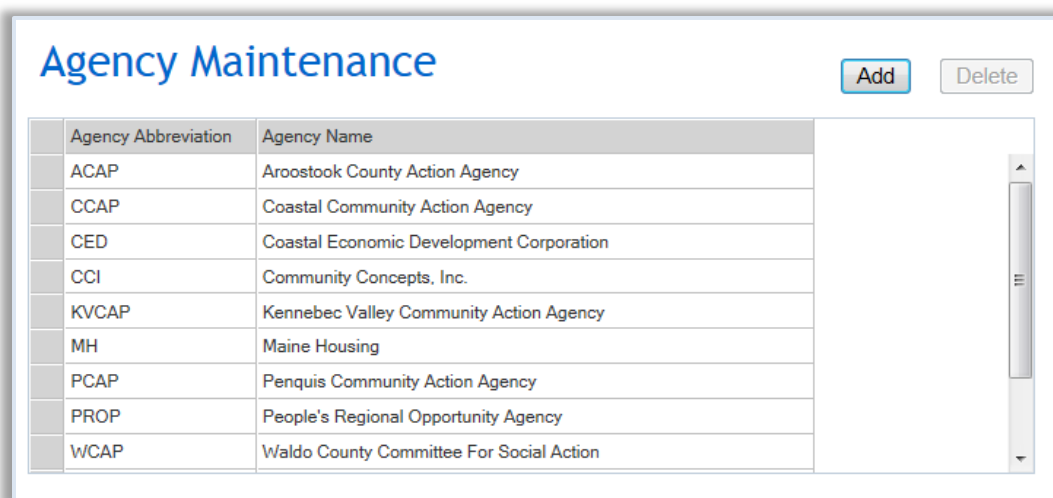
4. Click the button to confirm

Incompatible Funding Sources

The “Incompatible Funding Sources” table at the bottom of the screen will automatically populate with every non-selected funding source once any of the funding sources are selected. Check the box in the “Funding Source is Incompatible” column, in order to make that funding source incompatible with the selected funding source.

Agencies

The “Agencies” area is where a user can add, edit and delete the agencies associated to various aspects of the system.



The screenshot shows a web application window titled "Agency Maintenance". In the top right corner, there are two buttons: "Add" (highlighted with a blue border) and "Delete". Below these buttons is a table with two columns: "Agency Abbreviation" and "Agency Name". The table contains ten rows of agency data. To the right of the table is a vertical scrollbar.

Agency Abbreviation	Agency Name
ACAP	Aroostook County Action Agency
CCAP	Coastal Community Action Agency
CED	Coastal Economic Development Corporation
CCI	Community Concepts, Inc.
KVCAP	Kennebec Valley Community Action Agency
MH	Maine Housing
PCAP	Penquis Community Action Agency
PROP	People's Regional Opportunity Agency
W/CAP	Waldo County Committee For Social Action

Figure 3-37

Add

In order to add an office:

1. Click the  button.
2. This will bring the user to the “Agency Detail” screen.

Agency Detail

Organization Name * Is 1099 Vendor ☐

TIN Description

Address Phone E-Mail Address

Address Type	Address Line 1	Address Line 2	Address Line 3	Municipality

Agency Code Agency Abbreviation

Figure 3-38

3. The “Agency Detail” screen acts much like the “Create New User” and “Add Energy Auditor” sections previously covered in this document.

Edit

In order to edit an agency:

1. Double click on the desired agency.
2. This will bring the user to the Agency Detail screen for the selected agency.

Agency Detail

Organization Name * Is 1099 Vendor ☐

TIN Description

Address Phone E-Mail Address

Address Type	Address Line 1	Address Line 2	Address Line 3	Municipality
Primary Mailing Address	8530 Purple Road			Upper Abbot Maine, 04406

Agency Code Agency Abbreviation

Figure 3-39

3. This section will act much the same as editing users and auditors, which are described earlier in this document.

Delete

NOTE: An agency should not be deleted unless its creation in the system was a mistake.

In order to delete an agency:

1. Click the name of the agency you wish to remove.
2. Click the button.
3. A confirmation box will appear

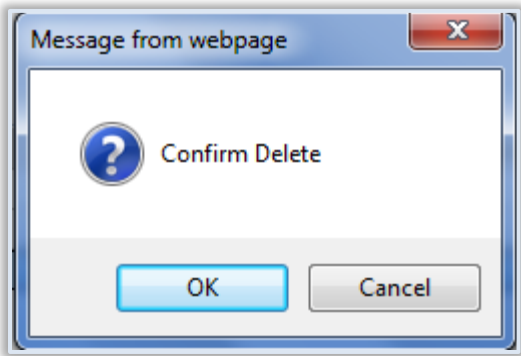


Figure 3-40

4. Click the button to finish

Periodic Maintenance

The “Periodic Maintenance” section of ECOS is for adjusting and adding the elements that need to be modified annually or periodically. When a user clicks on the “Periodic Maintenance” screen they are prompted select one of a number of options.

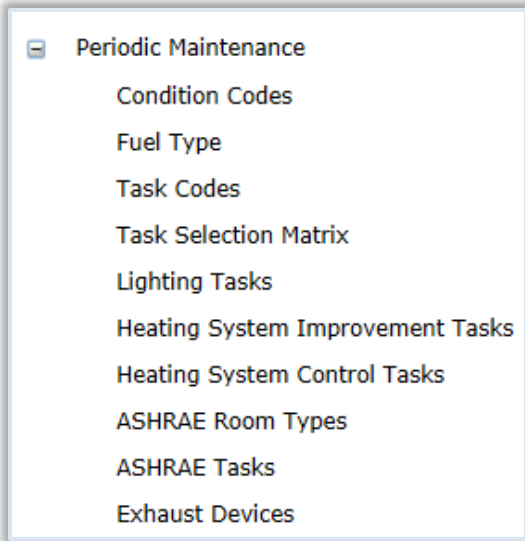


Figure 3-41

Available options are:

1. **Condition Codes**
Contains the condition codes for all building segments with their associated R-values
2. **Fuel Type**
3. **Task Codes**
The task codes maintenance screen is used to specify a given task’s category (conductive/non-conductive), and if applicable: labor category (i.e. general laborer), units (i.e. sq.ft), benchmark labor hours, and expected lifetime (set in years). The task can also be assigned with a list of materials and basic instructions to be carried out by the assigned contractor/wx technician.
4. **Task Selection Matrix**
The task selection matrix specifies which task is to get produced based on a set of pre-wx and post-wx conditions; the R-value change is specified for each matrix.
5. **Lighting Tasks**
6. **Heating System Improvement Tasks**
7. **Heating System Control Tasks**
8. **ASHRAE Room Types**
9. **ASHRAE Tasks**
10. **Exhaust Devices**

All sections (but one: #3 Task Codes) are handled by the system in the same way. In order to highlight the process of adding, editing and deleting, Condition Codes will be used as an example.

NOTE: For instructions on how to add, edit, and delete task codes, please see the section following the generic add, edit, and delete process pertaining to the other periodic maintenance screens.

Condition Code Maintenance					
Add					
Condition Code	Description	Segment type	R Value	Degraded	Action
01-001	Ceiling with open attic-no insulation	Attic/Ceiling	1.70	False	Edit Delete
01-002	Ceiling with open attic R-5 insulation	Attic/Ceiling	6.70	False	Edit Delete
01-003	Ceiling with open attic R-11 insulation	Attic/Ceiling	12.70	False	Edit Delete
01-004	Ceiling with open attic R-14 insulation	Attic/Ceiling	15.70	False	Edit Delete
01-005	Ceiling with open attic R-19 insulation	Attic/Ceiling	20.70	False	Edit Delete

Figure 3-42

Add

In order to add a Periodic Maintenance table:

1. Click the **Add** button.
2. This generates a blank row at the bottom of the table

05-014	Insulated metal exterior door with 1/2 glass and storm door	Door	7.50	False	Edit Delete
05-015	Metal uninsulated garage door	Door	1.10	False	Edit Delete
05-016	Metal insulated garage door	Door	11.10	False	Edit Delete
Export to CSV					

Figure 3-43

3. Type in data or select from the provided drop-down menus (when selections are limited to a particular set).

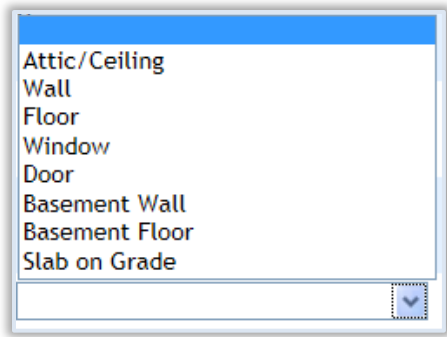


Figure 3-44

4. Once everything is entered to the user's satisfaction press the **Add** button, or the **Cancel** button if the new row was not necessary.

Edit

Any item can be directly edited on the Condition Code Maintenance screen. Click on the **Edit** button associated to the row you wish to modify.

NOTE: Again, once everything is entered to the user's satisfaction press the **Add** button, or the **Cancel** button.

Delete

In order to delete row:

1. Select the row you wish to remove.
2. Click the button.
3. A confirmation box will appear

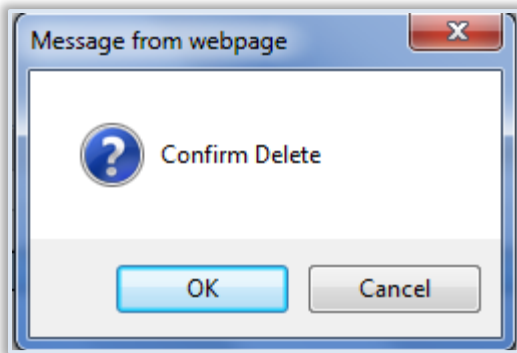


Figure 3-45

4. Click the button
5. Once everything is entered to the user's satisfaction press the , or the button.

Task Codes

Although the process of adding, editing, and deleting a task code is similar to the process shown above, the task codes are maintained on their own screen rather than inside a table/grid.

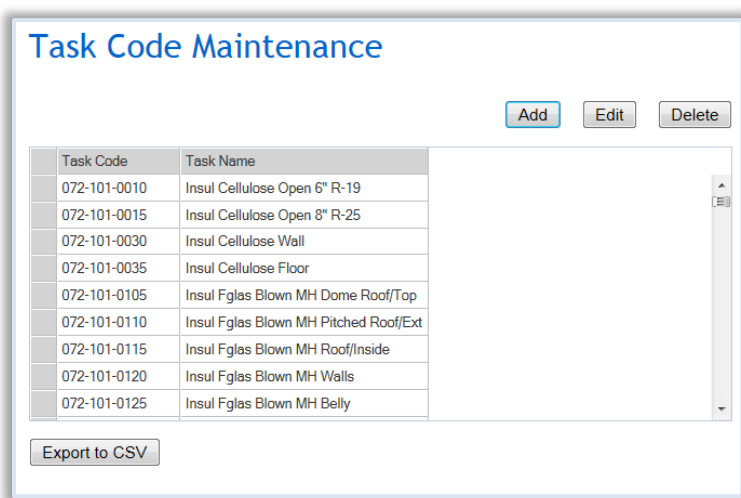


Figure 3-46

To add a new task code:

1. Click the button
2. Enter the required fields: Task Code #, Task Name, Category, Units, and Expected Life (years)
3. If applicable, enter any other appropriate information: Description of Task, Labor Category, Benchmark Labor Hours, Materials, Basic Instructions
4. Check off if the task is an auditor determined task, or if it is a duct leakage task (otherwise leave the checkboxes blank)
5. Once everything is entered to the user's satisfaction press the button to finish

To edit a new task code:

1. Double click on the task listed in the grid
2. Edit information as needed on the task code detail screen
3. Once everything is entered to the user's satisfaction press the button to finish

To delete an existing task code:

1. Select the row you wish to delete
2. Click the button.
3. A confirmation box will appear

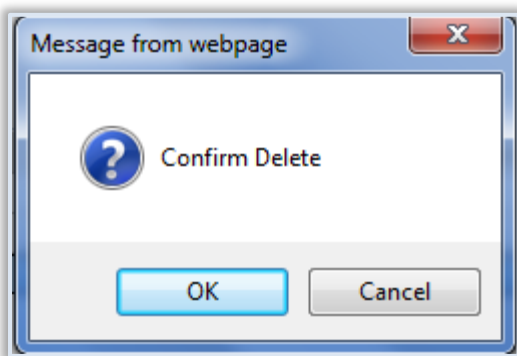


Figure 3-47

4. Click the button
5. Once everything is entered to the user's satisfaction press the , or the button.

4. Single Family Energy Audit

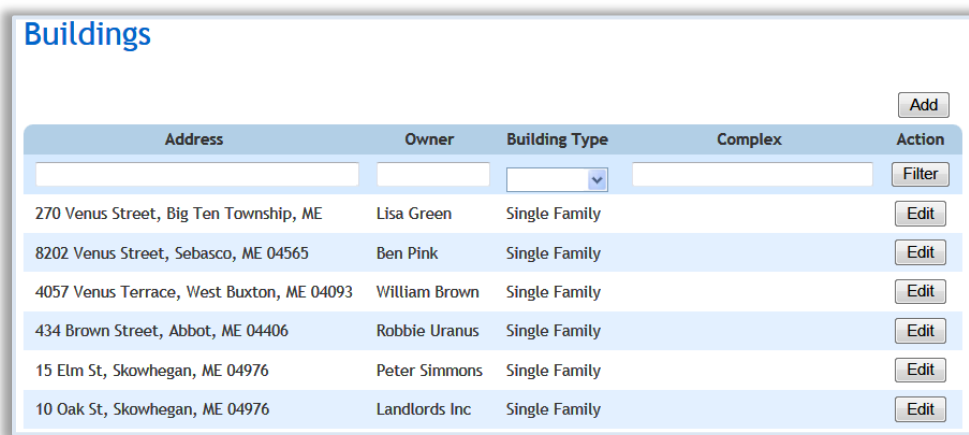
The energy audit section allows you (the energy auditor) to data entry the field form captured during the initial audit.

You will find the Energy Audit section under the Building menu item in the local navigation bar on the left hand side of your screen.

Create New Energy Audit (Single Family Dwelling)

To create a new energy audit:

1. Click on the Buildings menu item shown on the left
2. Click on the **Add** button on the 'Buildings' screen:

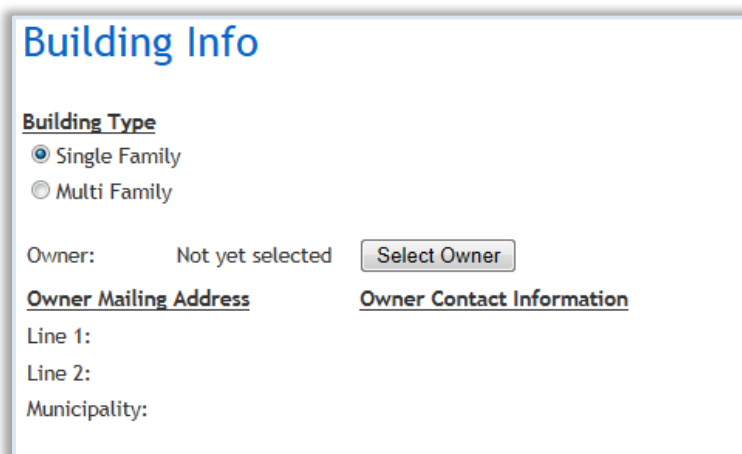


The 'Buildings' screen displays a table with the following columns: Address, Owner, Building Type, Complex, and Action. There are search filters for Address, Owner, Building Type, and Complex, along with 'Add' and 'Filter' buttons. The table lists six existing buildings, each with an 'Edit' button.

Address	Owner	Building Type	Complex	Action
270 Venus Street, Big Ten Township, ME	Lisa Green	Single Family		Edit
8202 Venus Street, Sebasco, ME 04565	Ben Pink	Single Family		Edit
4057 Venus Terrace, West Buxton, ME 04093	William Brown	Single Family		Edit
434 Brown Street, Abbot, ME 04406	Robbie Uranus	Single Family		Edit
15 Elm St, Skowhegan, ME 04976	Peter Simmons	Single Family		Edit
10 Oak St, Skowhegan, ME 04976	Landlords Inc	Single Family		Edit

Figure 4-1

3. Click on the **Select Owner** button to add a building owner



The 'Building Info' screen contains the following sections:

- Building Type:** Radio buttons for 'Single Family' (selected) and 'Multi Family'.
- Owner:** A text field showing 'Not yet selected' and a 'Select Owner' button.
- Owner Mailing Address:** Fields for 'Line 1:', 'Line 2:', and 'Municipality:'.
- Owner Contact Information:** (Section header, no visible fields)

Figure 4-2

4. If the owner is not already in the system click the **Add** button on the Owner Select screen

Owner Select

☒ Person
 ☐ Organization

Owner Name	Action
Brown, William	Select Edit
Cyan, Ashley	Select Edit
Earth, Gordon	Select Edit
Green, Lisa	Select Edit
Mars, John	Select Edit

Figure 4-3

- Type in owner's personal information:

Owner Detail

First Name*
 Suffix

Middle Name
 Date of Birth

Last Name*
 Identification Type

Gender*
 Identification Number

Figure 4-4

6. Type in building owners contact information:

The screenshot shows a software window with three tabs: 'Address', 'Phone', and 'E-Mail Address'. The 'Address' tab is selected. Below the tabs are two buttons: 'Add' and 'Delete'. Below the buttons is a table with the following columns: 'Address Type', 'Address Line 1', 'Address Line 2', 'Address Line 3', and 'Municipality'. The table is currently empty.

Figure 4-5

7. Click the  button to add an address

The screenshot shows a dialog box titled 'Enter Address'. It contains the following fields and controls:

- 'Address Type': A dropdown menu.
- 'Address Line 1 *': A text input field.
- 'Address Line 2': A text input field.
- 'Address Line 3': A text input field.
- 'City, State Zip *': A text input field followed by a '<-- Town Search' label and a dropdown menu.
- 'OK': A button at the bottom left.

Figure 4-6

8. Enter the owner's address

Enter Address

Address Type * Primary Mailing Address

Address Line 1 *

Address Line 2

Address Line 3

City, State Zip * <-- Town Search

OK Cancel

Save Cancel

Figure 4-7

9. Type in the first couple letters of the desired town and hit the 'Enter' key on your keyboard.

City, State Zip * Aug <-- Town Search

Augusta Maine, 04330

Augusta Maine, 04330

Augusta Maine, 04331

Augusta Maine, 04332

Augusta Maine, 04333

Augusta Maine, 04334

Augusta Maine, 04335

Augusta Maine, 04336

Augusta Maine, 04337

Augusta Maine, 04338

OK

Save Cancel

Type characters and press enter to load drop down

Figure 4-8

Note: This will do a search for all towns in the database beginning with these characters.

10. Select the appropriate municipality from the drop down and click the  button. The address will now be displayed in the grid:

Address Type	Address Line 1	Address Line 2	Address Line 3	Municipality
Primary Mailing Address	1 Fake St			Augusta Maine, 04330

Figure 4-9

Note: To edit the address, double click into the appropriate field and edit as needed.

- Once the address information has been added, click on the phone tab:

Figure 4-10

- Click on the **Add** button and double click into the phone type field.

Phone Type	Number	Extension	Activation Date
-Choose Contact Type-			05/25/2010

Figure 4-11

- Select the phone type from the drop down list and hit the 'Tab' key on your keyboard to continue entering in the number (and if appropriate the extension). You can also enter in the number by double clicking into the field instead.

14. Once the phone information has been added, click on the E-Mail Address tab:

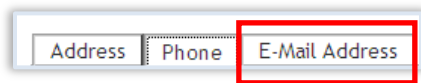
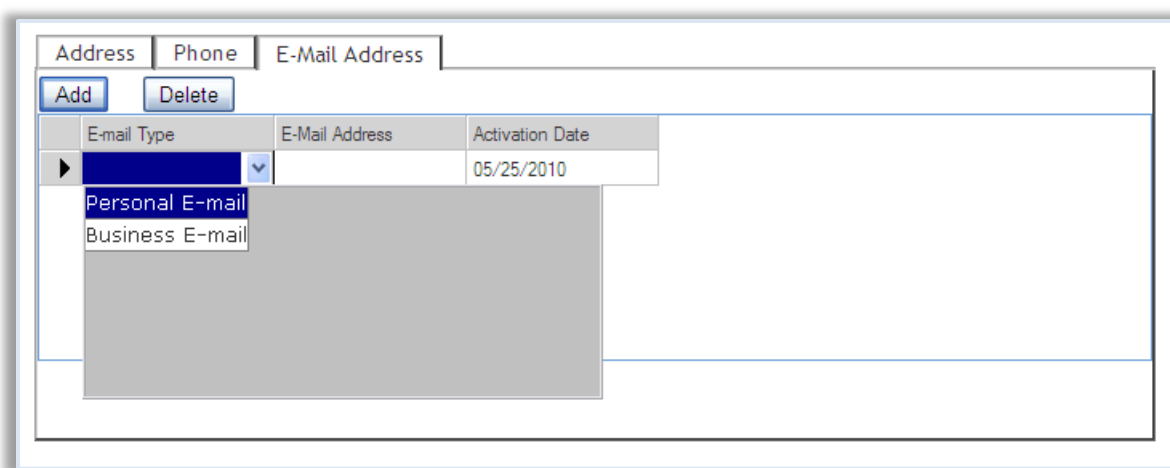


Figure 4-12

15. Next, click on the  button and double click into the 'E-mail Type' field.



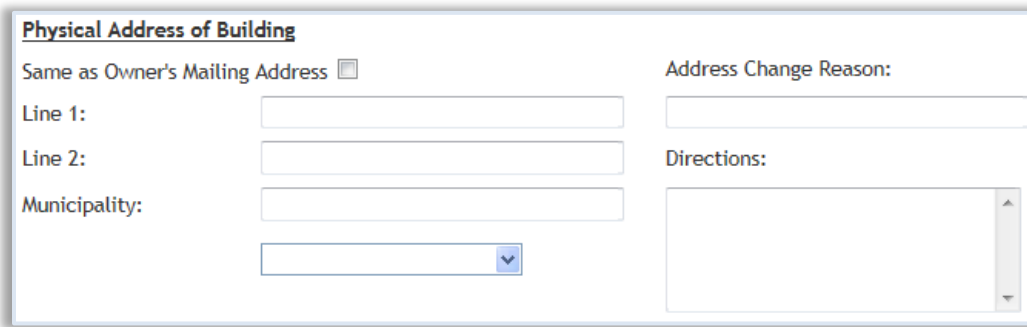
E-mail Type	E-Mail Address	Activation Date
Personal E-mail		05/25/2010
Business E-mail		

Figure 4-13

16. Select the E-mail Type from the drop down list and hit the 'Tab' key on your keyboard to continue entering in the E-Mail Address. You can also enter in the address by double clicking into the field instead.

17. Click on the  button

18. Next, enter the Physical Address of the building:

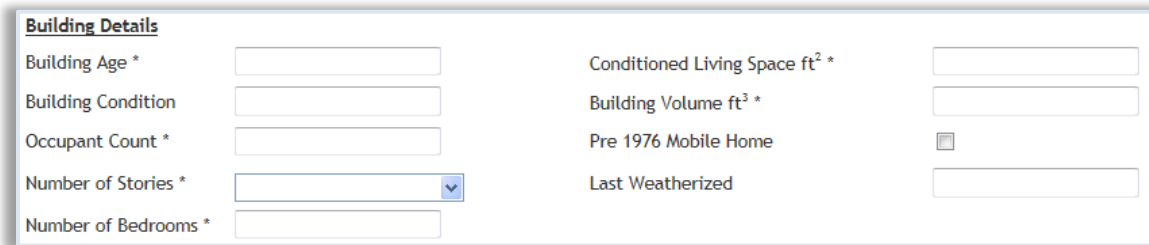


The form is titled "Physical Address of Building". It contains a checkbox labeled "Same as Owner's Mailing Address". To the right is a text field for "Address Change Reason:". Below the checkbox are three text fields for "Line 1:", "Line 2:", and "Municipality:". Below the "Municipality" field is a dropdown menu. To the right of these fields is a larger text area for "Directions:".

Figure 4-14

Note: If the address is the same as the owners address click the “Same as Owner’s Mailing Address” checkbox; this will populate the address information

19. Enter in the Building Details section



The form is titled "Building Details". It contains several fields: "Building Age *" (text), "Building Condition" (text), "Occupant Count *" (text), "Number of Stories *" (dropdown), "Number of Bedrooms *" (text), "Conditioned Living Space ft² *" (text), "Building Volume ft³ *" (text), "Pre 1976 Mobile Home" (checkbox), and "Last Weatherized" (text).

Figure 4-15

20. Click on the **Save** button

21. Next the user will click on the Client Info section from the left side menu

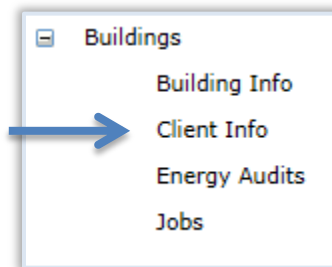


Figure 4-16

22. The user will enter in the necessary information:

Client Info Detail

General Info

Building Type: Single Family Owner: Jennifer Tester
 Complex: Physical Address: 812 Whitefield Road, Pittston, ME 04345

LIHEAP Application Number
 LIHEAP Application Certification Date
 Head of Household

Head of Household Mailing Address Head of Household Contact Information

☐ Same as Building
 Line 1:
 Line 2:
 Municipality:

Figure 4-17

23. Select to either create a) a new single family private audit or b) a single family audit based on an existing LIHEAP application.

Note: For instructions on how to “Attach LIHEAP Application” please see section titled [Attach LIHEAP Application](#)

24. Click on the button

25. Next the user will click on the “Energy Audits” item on the left side menu

Note: See section titled [Energy Audit Menu](#) for specifics for each section of the energy audit

Open Existing Energy Audit

To open an existing energy audit:

1. You can either search for the existing building by address, owner, building type or by complex:

Buildings

Address	Owner	Building Type	Complex	Action
		v		Filter

Figure 4-18

2. For any of the four options, please type in your search and press the **Filter** button.
3. Next, select the building associated to the energy audit by clicking on the associated **Edit** button to continue.
4. Next, click on the Energy Audits menu item (on the left side menu). This will bring you to the “Energy Audit Select” screen.
5. Click on the **Edit** button to open the associated energy audit.

Energy Audit Menu

The menu on the left behaves differently for the energy audit than for any other area of the system.

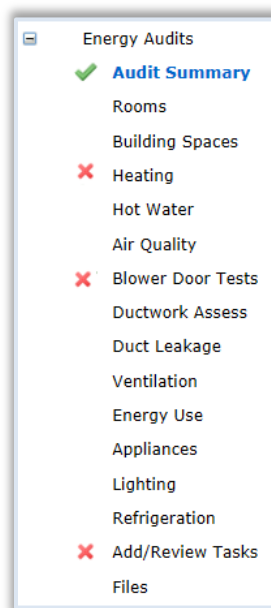


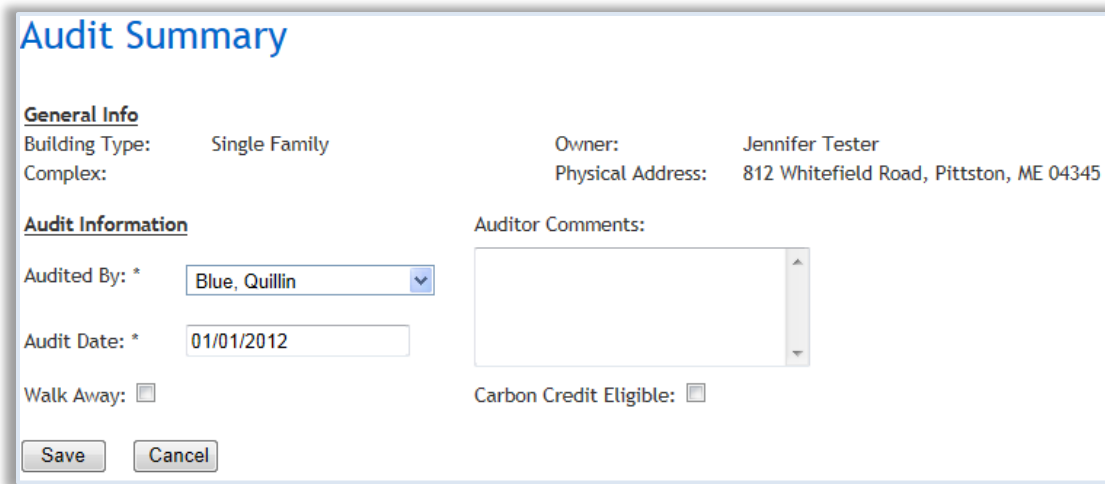
Figure 4-19

The difference is in the red and green icons that display next to specific sections in the menu. The **✗**s signify areas where vital audit data is missing. These pages must be completed in order to have correct and accurate calculations. Once an area has been completed to satisfactory standards a **✓** will appear next to that area in the menu.

Audit Summary

On the audit summary screen, you have the ability to view and add information related to the owner of the dwelling. Furthermore, information regarding who audited and inspected the dwelling is also captured.

Note: When the terms ‘client’ and ‘head of household’ are used, they are actually the primary applicant.



The screenshot displays the 'Audit Summary' form. It is divided into two main sections: 'General Info' and 'Audit Information'.
General Info: Contains fields for 'Building Type' (set to 'Single Family'), 'Owner' (Jennifer Tester), and 'Physical Address' (812 Whitefield Road, Pittston, ME 04345).
Audit Information: Contains fields for 'Audited By' (a dropdown menu showing 'Blue, Quillin'), 'Audit Date' (01/01/2012), 'Walk Away' (checkbox), and 'Carbon Credit Eligible' (checkbox). There is also a large text area for 'Auditor Comments'.
At the bottom of the form are 'Save' and 'Cancel' buttons.

Figure 4-20

Walk Away

At any time of the audit a client can be marked as a “walk away”. In order to do this, check the walk away box.

The user can also enter any relevant information in the “Walk Away Description” field in order to explain the reason for marking the client as a walk away.

NOTE: When marking an audit as “walk away”, the audit automatically gets closed.

Auditor

The auditor data should never be pre-populated on this form. In order to add the auditor, select the correct person from the “Audited By” dropdown menu. Input the audit date and any relative comments in the appropriate provided fields.

Audit Information

Audited By: * Bond, Rachel

Audit Date: * 03/27/2012

Walk Away: ☐

Auditor Comments:

Save Cancel

Figure 4-21

Rooms

The 'Rooms' screen contains information about a dwelling's individual rooms.

1. To add a new room click the  button

Rooms in Conditioned Space

General Info

Building Type: Single Family Owner: Eric Saturn

Complex: Physical Address: 5024 Washington Road, Bunkers Harbor, ME 04613

Rooms

Room Type	Room Name	Description	Action
Other	Other	Must Update with actual rooms	Edit Delete

Save Cancel

Figure 4-22

2. Select the room type from the dropdown, and then proceed to fill in the room name and description.
3. Click  to complete adding the row

Room Type	Room Name	Description	Action
Other	Other	Must Update with actual rooms	Edit Delete
* Kitchen Bedroom Bathroom Living Room Family Room Dining Room Office Other	*		Add Cancel

Figure 4-23

- Click on the button when finished.

Building Spaces

The 'Building Spaces' screen contains information about a dwelling's building envelope segments: basement, floor, attic, and walls. It furthermore lists the windows and exterior doors for each wall segment.

Adding Floor- and/or Attic Segments

To add a floor segment:

- Click the button.

Building Spaces

Spaces	
Name	Type
Whole Building	Conditioned Space

Figure 4-24

- Enter the necessary Space Detail information

Save Cancel Go To Job

Space Detail

Name* Sunroom Description:

Type*

Segments

- Conditioned Space
- Unconditioned Basement
- Unconditioned Space
- Unintentionally Conditioned Basement
- Unintentionally Conditioned Space

Add Copy Edit Delete

Location Condition Code Adjacent Spaces

Figure 4-25

- Click the  button to enter segment details
- Select the segment type from the drop down list

Add/Edit Building Segment

Request New Condition Code

Add Existing

Building Envelope Segment Detail

Segment Type *

Segment Location *

Gross Area (ft²) *

Net Area (ft²) (Gross area minus doors and windows)

Figure 4-26

- Type in the segment location

NOTE: The following naming convention should be used for **ceilings** when entering Segment Location: **CFA**

Where:

- C** = **C** (constant for Ceiling)
- F** = Building **Floor** (0=Basement, 1=First Floor, 2=Second Floor, 3=Third Floor, 4=Fourth Floor)
- A** = **Segment Designation** (this is alpha A thru Z where A=first segment, B=second segment, C=third segment thru Z=26th segment).

EXAMPLE: C1A is the code for a Ceiling on the first (1) floor for the first (A) segment.

NOTE: The following naming convention should be used for **floors** when entering Segment Location: **BFA**

Where:

- B** = **F** (constant for Floor)

- ii) **F** = Building Floor (0=Basement, 1=First Floor, 2=Second Floor, 3=Third Floor, 4=Fourth Floor and can continue if more floors are involved)
- iii) **A** = Segment designation (this is alpha A thru Z where A=first segment, B=second segment, C=third segment thru Z=26th segment).

EXAMPLE: F1A is the code for a floor on the first (1) floor for the first (A) segment.

6. Type in area in square feet
7. For the 'Pre Wx Code': you can either type in the code and select it from the drop down, or expand the drop down—by clicking on the  icon—and manually scroll through the list.

NOTE: When typing in the number, the drop down will automatically sort.

NOTE: If you type in the whole code, ex. 02-004, you still have to click on the item in the drop down with you mouse to select the item.

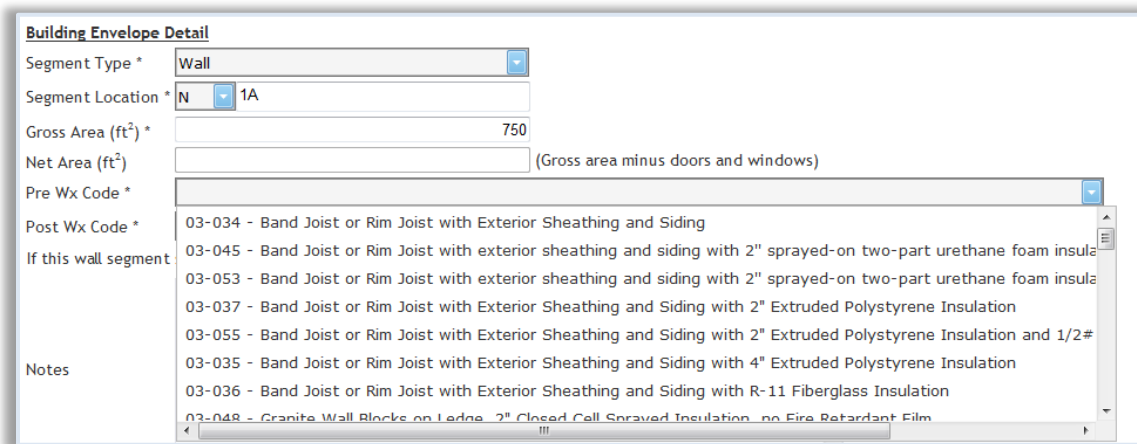


Figure 4-27

8. Once the 'Pre-Wx Code' has been selected, the 'Post Wx Code' drop down list will automatically sort its content, based on the available post codes that will create a valid condition code

NOTE: The 'Post Wx Code' will always be set equal to the 'Pre Wx Code', assuming that no changes will be made to the segment.

Pre Wx Code *	02-004 - Floor over unintentionally heated basement-no insulation
Post Wx Code *	02-004 - Floor over unintentionally heated basement-no insulation

Figure 4-28

NOTE: To change a condition task, click on the  icon to expand the 'Post Wx Code' drop down list and select a different post code:

Pre Wx Code *	02-004 - Floor over unintentionally heated basement-no insulation
Post Wx Code *	02-004 - Floor over unintentionally heated basement-no insulation 02-005 - Floor over unintentionally heated basement- R-11 insulation, Task: 000-000-0026 - Insul Fglas Floor 3.5X16
Notes	

Figure 4-29

NOTE: The condition code that is going to be generated is listed after the post wx code:

Pre Wx Code *	02-004 - Floor over unintentionally heated basement-no insulation
Post Wx Code *	02-004 - Floor over unintentionally heated basement-no insulation 02-005 - Floor over unintentionally heated basement- R-11 insulation, Task: 000-000-0026 - Insul Fglas Floor 3.5X16
Notes	

Figure 4-30

- If needed, please add any relevant notes in regards to the specific segment under the notes comment box:



Figure 4-31

10. Click the  button to finish.

Adding Basement- and/or Wall Segments

See ([Adding Floor- and/or Attic Segments](#))

Note: The following naming convention should be used for walls when entering Segment

Location: **F****A**

Where:

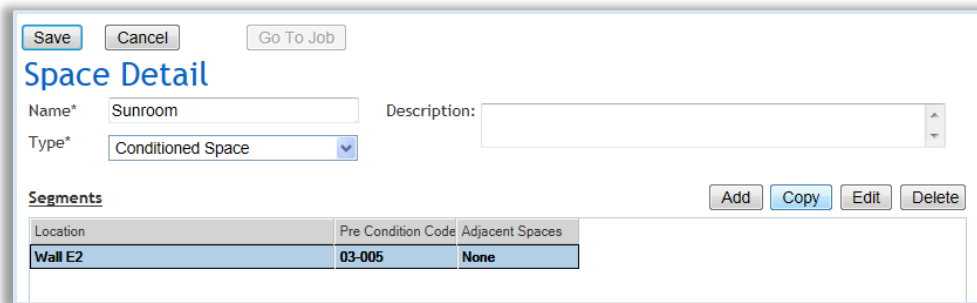
- iv) **F** = Building **Floor** (0=Basement, 1=First Floor, 2=Second Floor, 3=Third Floor, 4=Fourth Floor)
- v) **A** = **Segment Designation** (this is alpha A thru Z where A=first segment, B=second segment, C=third segment thru Z=26th segment)

EXAMPLE: 1A is the code for a wall on the first (1) floor for the first (A) segment. The system will automatically add in orientation into the name. So this example (if south facing) would appear as S1A.

Copy of Segments

To copy a segment:

1. Single click on the segment to get copied



The 'Space Detail' window contains the following fields and table:

- Buttons: Save, Cancel, Go To Job
- Title: Space Detail
- Name*: Sunroom
- Description: (empty text box)
- Type*: Conditioned Space (dropdown menu)
- Segments section with buttons: Add, Copy, Edit, Delete
- Table with 3 columns: Location, Pre Condition Code, Adjacent Spaces

Location	Pre Condition Code	Adjacent Spaces
Wall E2	03-005	None

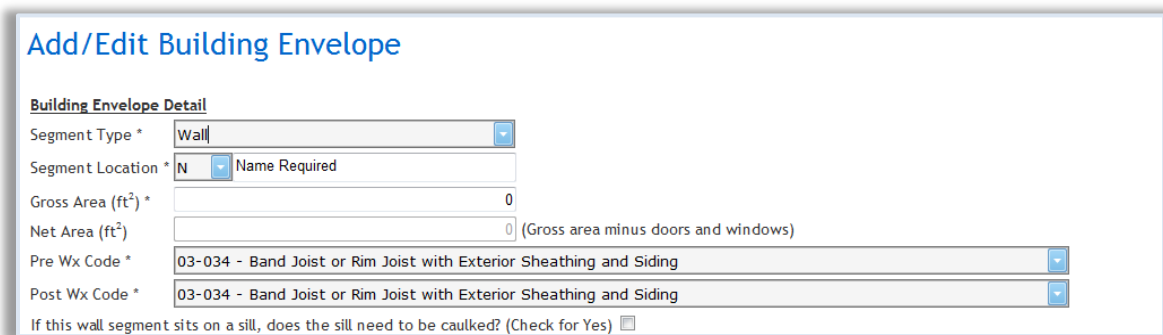
Figure 4-32

2. Click the **Copy** button
3. Next, the following fields will automatically be prepopulated: Segment Type, Pre Wx Code, and Post Wx Code.

Note: All other fields must be re-entered.

For Walls: Segment Orientation, Segment Location, and Area.

For Attics and Floors: Segment Location and Area.



The 'Add/Edit Building Envelope' window contains the following fields:

- Title: Add/Edit Building Envelope
- Section: Building Envelope Detail
- Segment Type *: Wall (dropdown menu)
- Segment Location *: N (dropdown menu) Name Required
- Gross Area (ft²)*: 0
- Net Area (ft²): 0 (Gross area minus doors and windows)
- Pre Wx Code *: 03-034 - Band Joist or Rim Joist with Exterior Sheathing and Siding (dropdown menu)
- Post Wx Code *: 03-034 - Band Joist or Rim Joist with Exterior Sheathing and Siding (dropdown menu)
- If this wall segment sits on a sill, does the sill need to be caulked? (Check for Yes) ☐

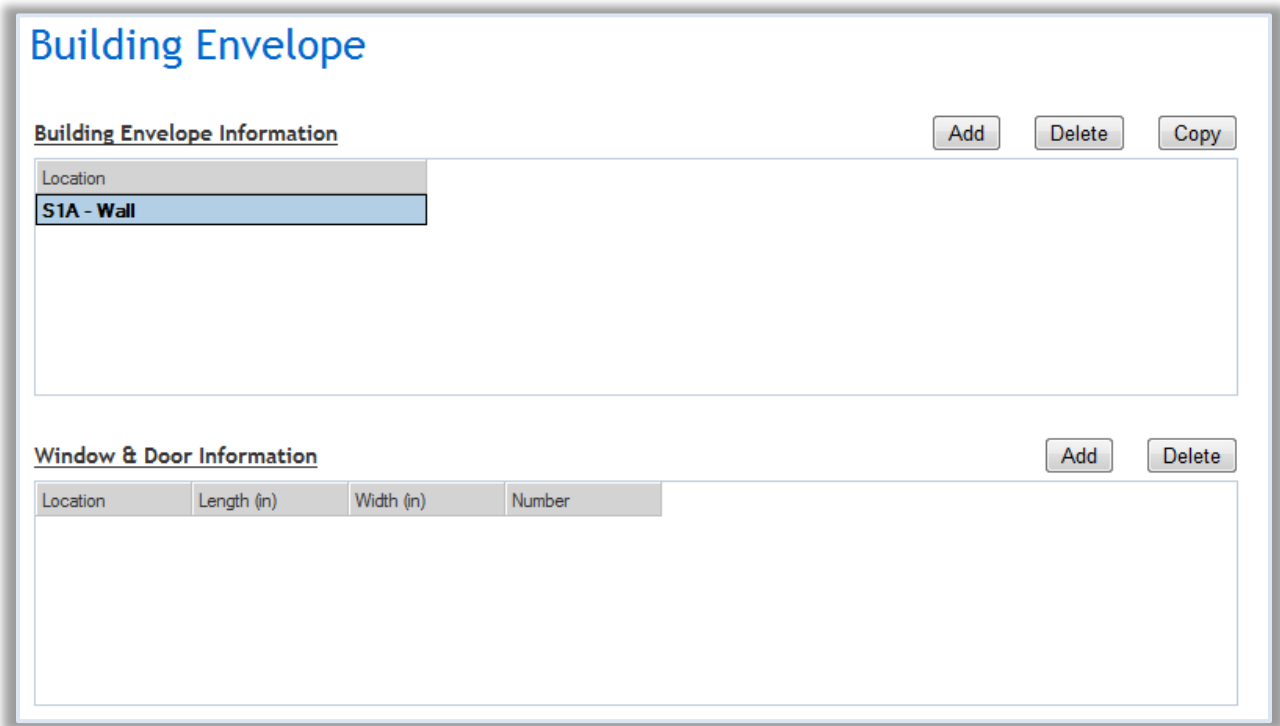
Figure 4-33

4. Click the **Save** button to finish.

Windows and Exterior Doors

To add a Window or Exterior Door:

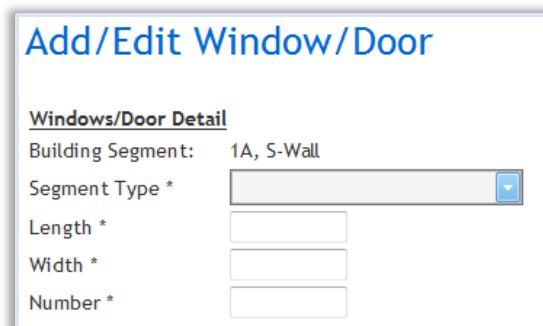
1. Single click [to highlight] on the wall segment for which the door or window is to be added
2. Click the  button



The **Building Envelope** dialog box is shown. It has a title bar and a main area divided into two sections. The top section is titled **Building Envelope Information** and contains a table with one row: **S1A - Wall**. To the right of this section are buttons for **Add**, **Delete**, and **Copy**. The bottom section is titled **Window & Door Information** and contains a table with four columns: **Location**, **Length (in)**, **Width (in)**, and **Number**. To the right of this section are buttons for **Add** and **Delete**.

Figure 4-34

3. Select the segment type: Window or Door from the drop down list

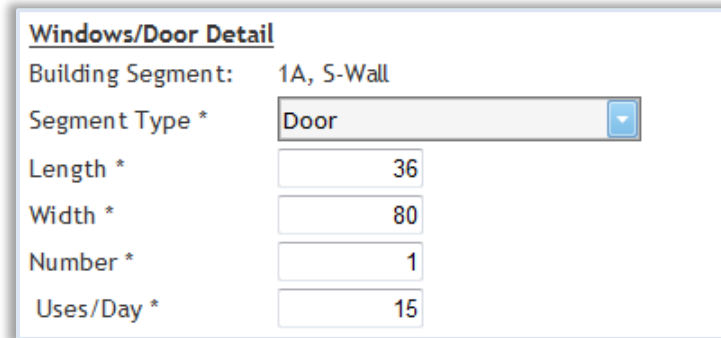


The **Add/Edit Window/Door** dialog box is shown. It has a title bar and a main area. The top section is titled **Windows/Door Detail** and contains a table with two columns: **Building Segment:** and **Segment Type ***. The **Building Segment:** column has a value of **1A, S-Wall**. The **Segment Type *** column has a dropdown menu. Below this table are four input fields: **Length ***, **Width ***, and **Number ***.

Figure 4-35

4. Type in the dimensions (length and width) and the number of windows or doors

Note: When adding a door as a segment type, the uses per day must also be entered



Windows/Door Detail

Building Segment: 1A, S-Wall

Segment Type * Door

Length * 36

Width * 80

Number * 1

Uses/Day * 15

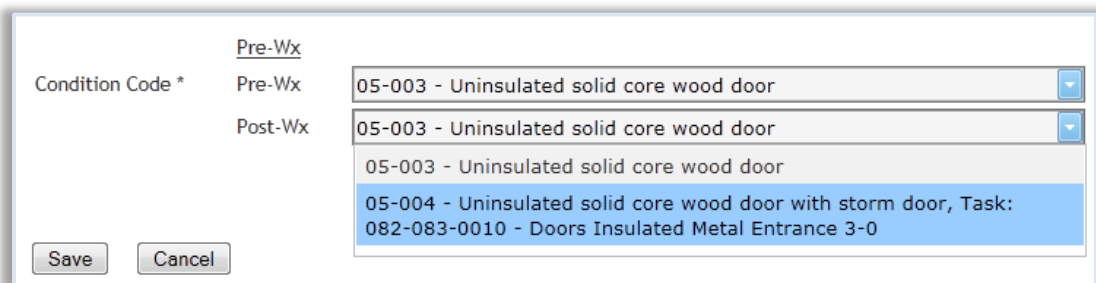
Figure 4-36

5. For the 'Pre-Wx' code: you can either type in the code and select it from the drop down, or expand the drop down—by clicking on the  icon—and manually scroll through the list.

NOTE: When typing in the number, the drop down will automatically sort.

NOTE: If you type in the whole code, ex. 05-003, you still have to click on the item in the drop down with your mouse to select the item.

6. Once the 'Pre-Wx' code has been selected, the 'Post-Wx' code drop down list will automatically sort its content, based on the available post codes that will create a valid condition code
7. Select the 'Post-Wx' code



Condition Code *

Pre-Wx 05-003 - Uninsulated solid core wood door

Post-Wx 05-003 - Uninsulated solid core wood door

05-003 - Uninsulated solid core wood door

05-004 - Uninsulated solid core wood door with storm door, Task:
082-083-0010 - Doors Insulated Metal Entrance 3-0

Save Cancel

Figure 4-37

NOTE: The condition code that is going to be generated is listed after the post wx code:

The screenshot shows a software window with a 'Condition Code *' label. To the right, there are two dropdown menus. The first dropdown, labeled 'Pre-Wx', shows '05-003 - Uninsulated solid core wood door'. The second dropdown, labeled 'Post-Wx', shows '05-003 - Uninsulated solid core wood door'. Below these, a list of condition codes is displayed: '05-003 - Uninsulated solid core wood door', '05-004 - Uninsulated solid core wood door with storm door', and '082-083-0010 - Doors Insulated Metal Entrance 3-0'. The last item is highlighted with a red box. To the right of this list, a 'Task:' label is also highlighted with a red box. At the bottom left of the window are 'Save' and 'Cancel' buttons.

Condition Code *	Pre-Wx	Post-Wx
	05-003 - Uninsulated solid core wood door	05-003 - Uninsulated solid core wood door
	05-003 - Uninsulated solid core wood door	05-003 - Uninsulated solid core wood door
	05-004 - Uninsulated solid core wood door with storm door	05-004 - Uninsulated solid core wood door with storm door
	082-083-0010 - Doors Insulated Metal Entrance 3-0	082-083-0010 - Doors Insulated Metal Entrance 3-0

Task:

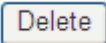
Save Cancel

Figure 4-38

8. Click the  button to finish.

Deletion of Segments and/or Windows/Doors

To delete a segment and/or window/door:

1. Click on the segment or window/door—highlighting it—in the grid.
2. Click on the  button.

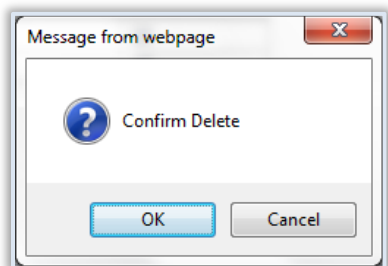
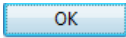


Figure 4-39

3. Click on the  button to confirm delete.

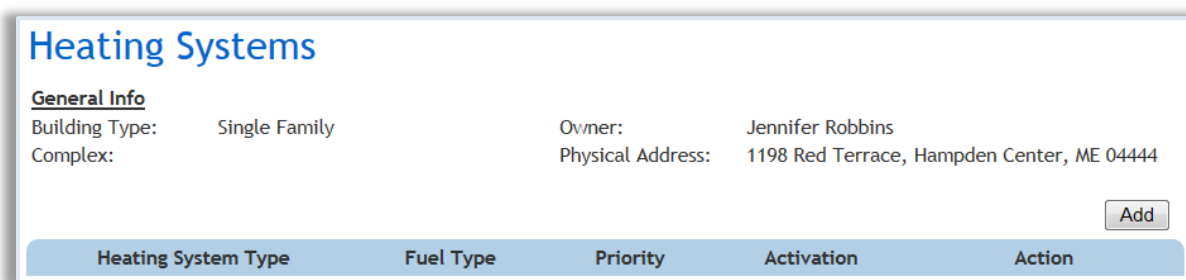
Heating & Hot Water

The Heating & Hot Water System screens allow you to enter existing water- and heating systems present in the household.

Add Heating System

The Heating System screen contains details related to a household's heating systems based on the heating system type, fuel type, priority, and also its pre-/post related efficiency details.

To add a new heating system for the household:



Heating Systems

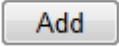
General Info

Building Type:	Single Family	Owner:	Jennifer Robbins
Complex:		Physical Address:	1198 Red Terrace, Hampden Center, ME 04444



Heating System Type	Fuel Type	Priority	Activation	Action
---------------------	-----------	----------	------------	--------

Figure 4-40

1. Click the  button, this will bring the user to the Heating System Details screen
2. The user will fill in the fields in the following screen shot (asterisks denote required fields):

Heating System Detail

Pre-Wx Post-Wx

Designed Heat Load MBTU/hr N/A N/A

Heating System Detail

Heating System Improvement

Heating System Type *

Fuel Type *

Nozzle Size

Heating System Priority *

Heating System Condition *

Activation *

Deactivation

Measurements [-]

Test Date

Over Fire Draft

Over Fire Breech

Smoke

O₂ or CO₂

CO < 50ppm

CAZ Depress

Comments

Stack Temperature

Steady State Efficiency % *

SSE Source

Outside Combustion Air

Chimney Cond.

Smoke Spillage

Default

Save

Cancel

Figure 4-41

From the above shown screen the user will enter all of the pertinent heating system detail for each heating system in the house hold (primary, secondary, and tertiary).

NOTE: If the SS Eff% is left blank for a primary heating system, ECOS will assume the default AFUE associated with the fuel type. Users which have the role of program adminster can view the default AFUE value by going to the program admin > drop down maintenance screen and select fuel type.

NOTE: The deactivation date is captured for heating systems no longer in use.

Once all of the required information has been entered the user will then click the *save* button. If any required fields are NOT filled in (or filled in improperly) the system will show verbiage (in red) showing the user what needs to be corrected before the data will save.

The following information is invalid:

- Heating System Type Required
- Priority Required
- Heating system condition is required.
- Activation Required

Figure 4-42

Note: An energy audit must have at least one primary fuel system associated in order to complete this section.

Edit Heating System

To edit a heating system the user will need to:

1. Click the edit button associated to the heating system you wish to modify

Heating Systems

General Info

Building Type: Single Family Owner: Jennifer Robbins
Complex: Physical Address: 1198 Red Terrace, Hampden Center, ME 04444

Heating System Type	Fuel Type	Priority	Activation	Action
Oil Boiler or Furnace	Oil	Primary	1/1/1993	Edit Delete
Wood Stove	Wood	Secondary	1/1/1990	Edit Delete

Figure 4-43

This will return the user to the heating system details screen with all of the previously entered data prepopulated. From there the user can modify the necessary information and click the *save* button.

Note: See [Add Heating System](#) for more details.

Delete Heating System

To edit a heating system the user will need to:

1. Highlight the heating system that needs to be removed and click on the *delete* button

Heating Systems

General Info

Building Type:	Single Family	Owner:	Jennifer Robbins
Complex:		Physical Address:	1198 Red Terrace, Hampden Center, ME 04444

Add

Heating System Type	Fuel Type	Priority	Activation	Action
Oil Boiler or Furnace	Oil	Primary	1/1/1993	Edit Delete
Wood Stove	Wood	Secondary	1/1/1990	Edit Delete

Figure 4-44

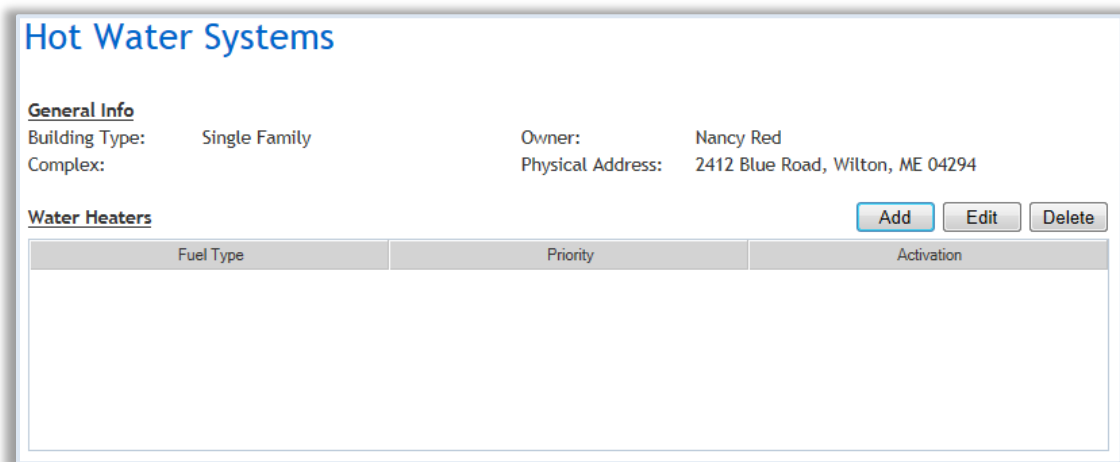
ECOS will prompt the user to confirm the deletion.

1. To Delete; click OK
2. Click cancel if *Delete* was clicked in error

Add/Edit Water Heater

The water heater screen contains details related to a household's water heater based on fuel type, priority, and also its pre-/post related efficiency details.

To add a water heater for the household:



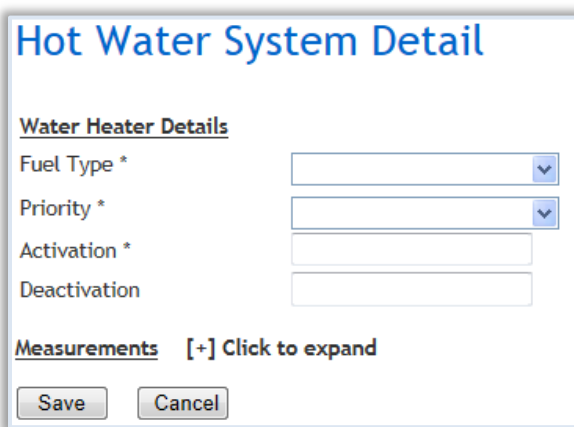
The screenshot shows a web application interface titled "Hot Water Systems". Under the "General Info" section, the "Building Type" is "Single Family", the "Owner" is "Nancy Red", and the "Physical Address" is "2412 Blue Road, Wilton, ME 04294". Below this, there is a "Water Heaters" section with a table. The table has three columns: "Fuel Type", "Priority", and "Activation". Above the table are three buttons: "Add", "Edit", and "Delete".

Fuel Type	Priority	Activation
-----------	----------	------------

Figure 4-45

1. Click the  button.
2. Select the fuel type and priority from the drop downs
3. Correct the activation date to reflect the date that the heating system was initially installed.

NOTE: The deactivation date is captured for heating systems no longer in use.



The screenshot shows a web application interface titled "Hot Water System Detail". Under the "Water Heater Details" section, there are four input fields: "Fuel Type *" (a dropdown menu), "Priority *" (a dropdown menu), "Activation *" (a text input field), and "Deactivation" (a text input field). Below these fields is a section titled "Measurements" with a "[+] Click to expand" link. At the bottom of the form are two buttons: "Save" and "Cancel".

Figure 4-46

NOTE: For combustion water heating systems, click the **[+]** icon to enter PRE and POST data:

The screenshot shows a web form titled "Measurements" with a collapse icon and text "[-] Click to collapse". The form contains the following fields:

- Test Date:
- Over Fire Draft: (Pre-Wx) (Post-Wx)
- Smoke: (Pre-Wx) (Post-Wx)
- O₂ or CO₂: (Pre-Wx) (Post-Wx)
- CO<50PPM: ☐ (Pre-Wx) ☐ (Post-Wx)
- Water Temp. Setting: (Pre-Wx) (Post-Wx)
- Insulation Blanket: ☐ (Pre-Wx) ☐ (Post-Wx)
- CAZ Depress: (Pre-Wx) (Post-Wx)
- Stack Temperature: (Pre-Wx) (Post-Wx)
- SS Eff %: (Pre-Wx) (Post-Wx)
- Out. Comb. Air: (Pre-Wx) (Post-Wx)
- Chimney Condition: (Pre-Wx) (Post-Wx)
- Ambient Temp.: (Pre-Wx) (Post-Wx)
- Spillage: ☐ (Pre-Wx) ☐ (Post-Wx)
- Comments:

At the bottom of the form are "Save" and "Cancel" buttons.

Figure 4-47

- Click on the **Save** button to finish.

Note: To delete an existing water heater, first click on the appropriate heater—highlighting it in the grid. Next, click on the **Delete** button.

Note: Or to modify an existing water heater listed, first double click on the appropriate heater listed and edit as needed.

Heating System Improvements

From the heating systems improvements screen the user has the ability to add heating system improvement tasks as well as control tasks (see screenshot below).

Figure 4-48

In order to enter the heating system improvements section of the energy audit the user will click on the *Heating System Improvement* button on the Heating System Detail screen.

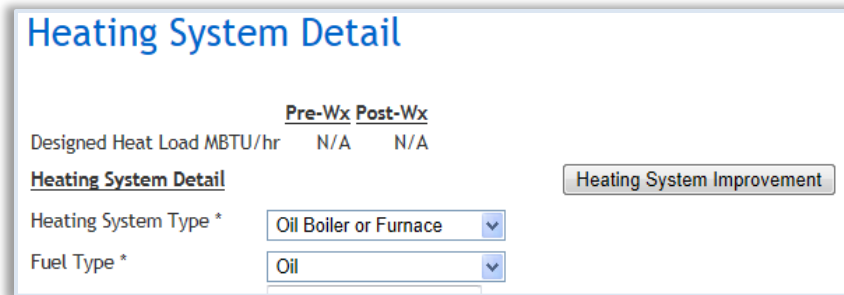
Figure 4-49

Improvements

This is the section where the user can add which improvement tasks need to be done for a specific heating system.

Add Heating Improvement

The user can add a heating improvement task from the *Heating System Detail* screen.

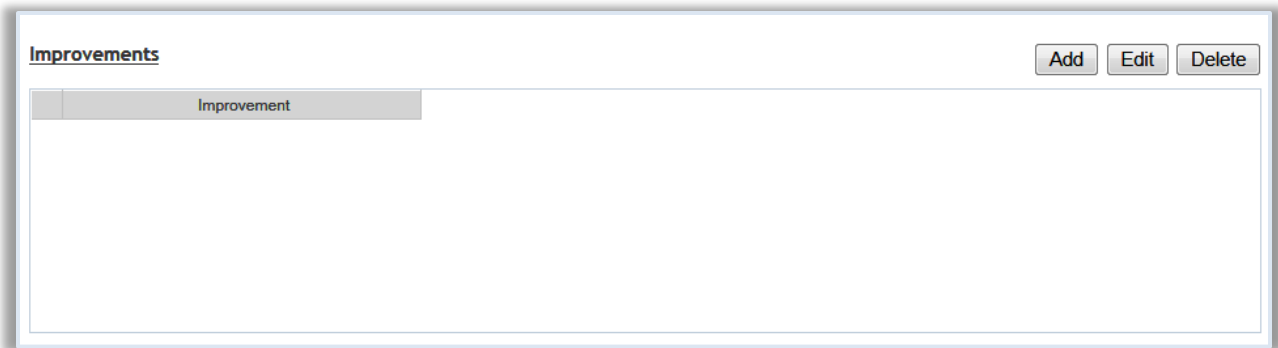


The screenshot shows a web form titled "Heating System Detail". At the top, there are two columns labeled "Pre-Wx" and "Post-Wx". Below these, the text "Designed Heat Load MBTU/hr" is followed by "N/A" under both columns. The form has a section titled "Heating System Detail" with two dropdown menus: "Heating System Type *" (set to "Oil Boiler or Furnace") and "Fuel Type *" (set to "Oil"). To the right of these fields is a button labeled "Heating System Improvement".

Figure 4-50

To add heating system improvements task:

1. Click the *Heating System Improvement* button (located in the heating system detail section for necessary heating system)
2. Click the *add* button to the right of the screen above the improvements grid



The screenshot shows a web form titled "Improvements". At the top right, there are three buttons: "Add", "Edit", and "Delete". Below these buttons is a table with a single header row labeled "Improvement". The table body is empty.

Figure 4-51

3. Choose the improvement type from the available dropdown

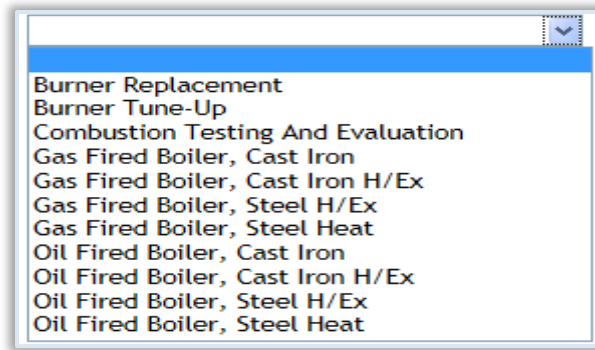


Figure 4-52

Note: the necessary data fields will appear on the screen upon selection of an improvement type. For the purposes of this documentation we will be utilizing Combustion Testing and Evaluation.

Figure 4-53

4. The following fields are required in order to be able to save the data on the screen
 - a. Cost
 - b. Heating Technician
 - c. Heating System Priority
 - d. Activation (date)
 - e. Steady State Efficiency %

Upon entering all of the required data the user can then click the *save* button (if entered data in error, the user can also click *cancel* and they will be redirected back to the heating system improvement screen).

Note: if the user clicks *cancel*, a screen prompt will appear asking for confirmation prior to leaving the heating system improvements detail screen IF there had been data entered. If no data was entered into the screen than ECOS will direct the user back to the heating system improvements screen.

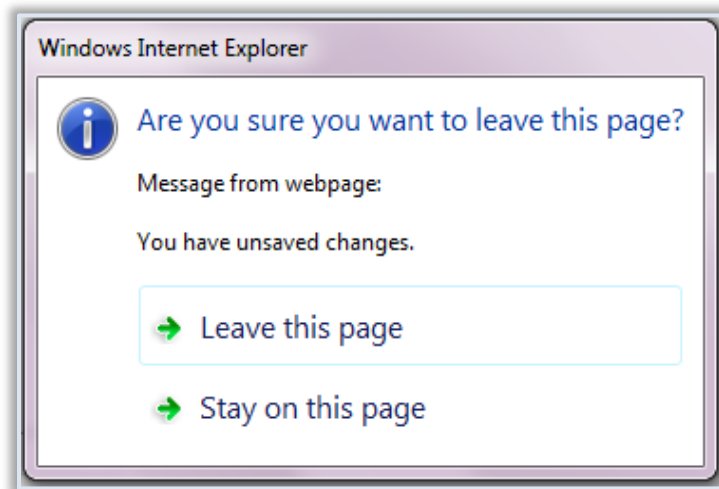


Figure 4-54

Edit Heating Improvement

The user can edit a heating improvement task from the *Heating System Detail* screen.

To edit a heating system task:

1. Highlight the task that is to be modified
2. Click the *edit* button
3. Upon modifying the necessary data the user can then click the *save* button (if entered data in error, the user can also click *cancel* and they will be redirected back to the heating system improvement screen).

Note: If any data on the screen has been changed and the user clicks *cancel* than ECOS will ask the user to confirm that they wish to leave the screen without saving changes.

Delete Heating Improvement

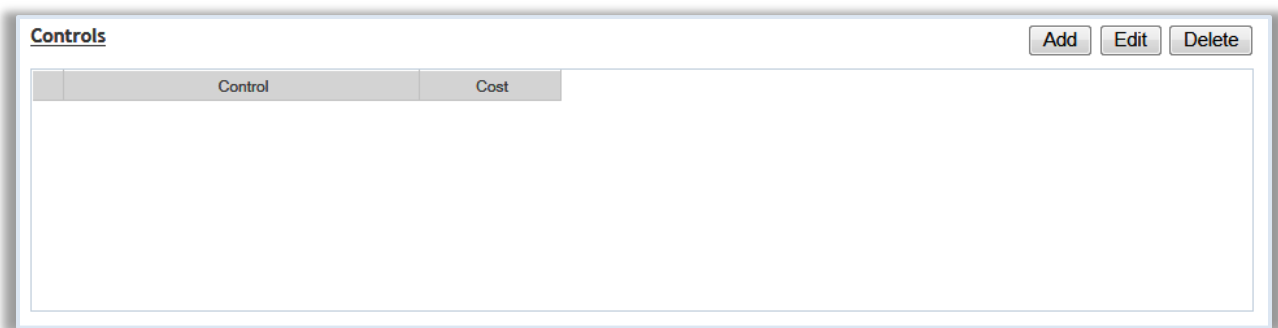
The user can delete a heating improvement task from the *Heating System Detail* screen.

To delete a heating system task:

1. Highlight the task that is to be deleted
2. Click the *delete* button
3. ECOS will remove the task and all associated data from the system

Controls

This portion of ECOS is where the user will add tasks related to the heating system controls.



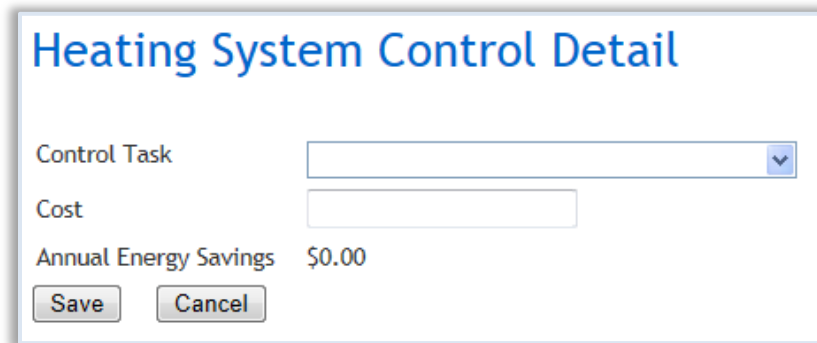
Control	Cost
---------	------

Figure 4-55

Add Controls

To add heating system controls task:

1. Click the *Heating System Improvement* button (located in the heating system detail section for necessary heating system)
2. Click the *add* button to the right of the screen above the controls grid
3. Choose the Controls type from the available dropdown

A screenshot of a web form titled "Heating System Control Detail". The form contains three input fields: "Control Task" with a dropdown arrow, "Cost" with a text box, and "Annual Energy Savings" with a text box containing "\$0.00". At the bottom are "Save" and "Cancel" buttons.

Heating System Control Detail	
Control Task	
Cost	
Annual Energy Savings	\$0.00
Save Cancel	

Figure 4-56

Upon entering all of the required data the user can then click the *save* button (if entered data in error, the user can also click *cancel* and they will be redirected back to the heating system improvement screen).

Note: if the user clicks *cancel*, a screen prompt will appear asking for confirmation prior to leaving the heating system improvements detail screen IF there had been data entered. If no data was entered into the screen than ECOS will direct the user back to the heating system improvements screen.

Edit Controls

The user can edit a heating controls task from the *Heating System Detail* screen.

To edit a heating controls task:

1. Highlight the task that is to be modified
2. Click the *edit* button
3. Upon modifying the necessary data the user can then click the *save* button (if entered data in error, the user can also click *cancel* and they will be redirected back to the heating system improvement screen).

Note: If any data on the screen has been changed and the user clicks *cancel* than ECOS will ask the user to confirm that they wish to leave the screen without saving changes.

Delete Controls

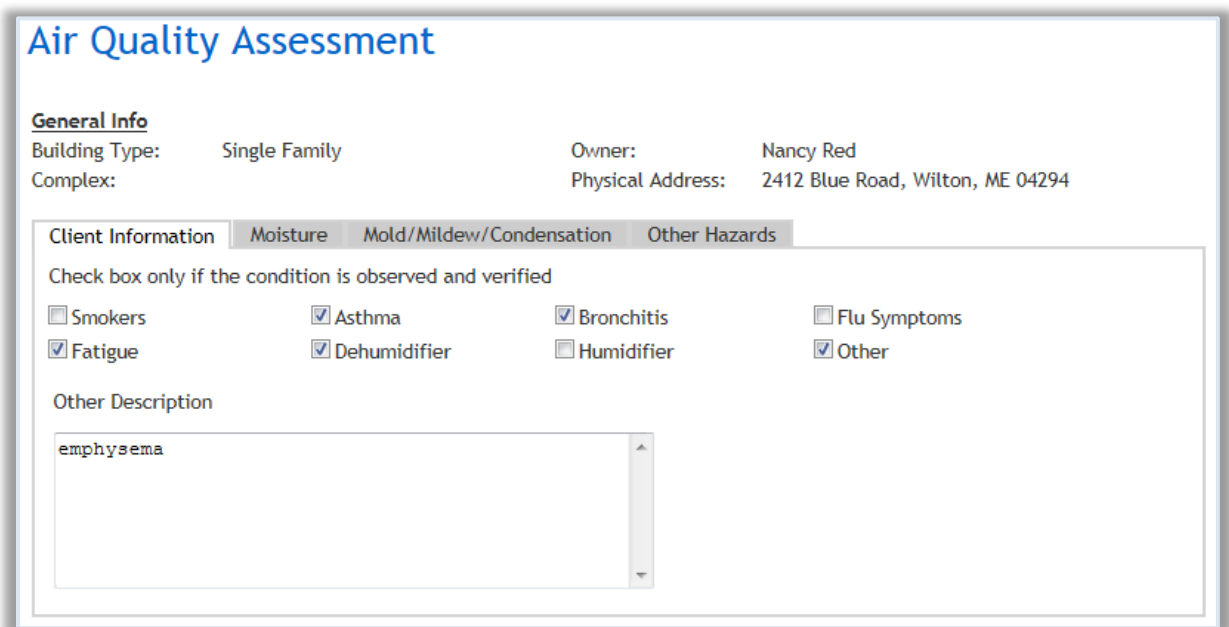
The user can delete a heating controls task from the *Heating System Detail* screen.

To delete a heating controls task:

1. Highlight the control that is to be deleted
2. Click the *delete* button
3. ECOS will remove the control and all associated data from the system

Air Quality

The air quality assessment screen allows you to enter the dwelling's air quality hazards, pertaining to both the client and to the dwelling.



The screenshot shows the 'Air Quality Assessment' form. At the top, the title 'Air Quality Assessment' is displayed in blue. Below the title, there is a 'General Info' section with fields for 'Building Type' (Single Family), 'Owner' (Nancy Red), 'Physical Address' (2412 Blue Road, Wilton, ME 04294), and 'Complex'. Below this, there are four tabs: 'Client Information', 'Moisture', 'Mold/Mildew/Condensation', and 'Other Hazards'. The 'Client Information' tab is selected and highlighted with a white background. Under this tab, there is a section titled 'Check box only if the condition is observed and verified' with eight checkboxes: 'Smokers' (unchecked), 'Asthma' (checked), 'Bronchitis' (checked), 'Flu Symptoms' (unchecked), 'Fatigue' (checked), 'Dehumidifier' (checked), 'Humidifier' (unchecked), and 'Other' (checked). Below the checkboxes, there is a section titled 'Other Description' with a text area containing the word 'emphysema'.

Figure 4-57

To enter the air quality assessment collected during the initial audit:

1. Check off the appropriate check boxes

Note: The tab shown with a white background is the tab selected. Please navigate through the different tabs, by single click.

Client Information Moisture **Mold/Mildew/Condensation** Other Hazards

☐ Dirt Floor ☐ Efflorescence ☐ Sill Rot ☒ Gutters
☐ Standing Water ☐ Firewood ☐ Kitchen Vent ☐ Plumbing Leaks
☐ Sump Pump ☒ Clothes Drying ☐ Bathroom Vent ☐ Humidifier Use
☐ Water Staining ☒ Dryer Not Vented ☐ Roof Leaks ☐ Aquarium
☐ Unvented Space Heater ☐ Other

Figure 4-58

NOTE: To enter comments, please check the 'other' check box and enter in a description:

Client Information Moisture Mold/Mildew/Condensation **Other Hazards**

☐ Dirt Floor ☐ Efflorescence ☐ Sill Rot ☒ Gutters
☐ Standing Water ☐ Firewood ☐ Kitchen Vent ☐ Plumbing Leaks
☐ Sump Pump ☒ Clothes Drying ☐ Bathroom Vent ☐ Humidifier Use
☐ Water Staining ☒ Dryer Not Vented ☐ Roof Leaks ☐ Aquarium
☐ Unvented Space Heater ☒ Other

Other Description

Figure 4-59

2. Next, click the  button to add any air exhaust device present in the dwelling

Existing Air Exhaust Devices 

Location	Device	CFM	Vented	Continuous Running	Action
Other	range hood	160	Yes	No	 
Other			☐	☐	 

Figure 4-60

3. Enter location of device, device name, CFM, check whether the device is vented to the outside or not, and whether the device is continuously running or not.

NOTE: To edit an existing air exhaust device:

- i) Click the **Edit** button next to the row containing the device to be edited
- ii) Edit as needed.

NOTE: To delete an existing air exhaust device:

- i) Click on the **Delete** button next to the row containing the device to be edited.

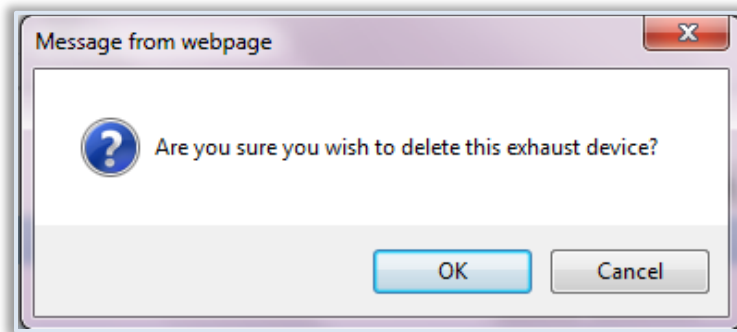


Figure 4-61

- ii) Click on the **OK** button to confirm delete.

4. If there is a need for mechanical ventilation, please check the below shown checkbox and enter a comment describing the need.

Figure 4-62

5. Click on the **Save** button to finish.

Blower Door Tests

The blower door test screen allows you to enter blower door test results and a post infiltration estimate.

To enter a blower door test:

Blower Door Tests

General Info

Building Type: Single Family Owner: Nancy Red
Complex: Physical Address: 2412 Blue Road, Wilton, ME 04294

A blower door test must be added and a post infiltration estimate must exist for this section to be complete.

Blower Door Tests

Test Location	Pre CFM50	HL BTU	HL Units	HL Dollars	HL BTU Savings	HL Dollars Savings

Figure 4-63

1. Click on the button

Test Location

Configuration * ▼

Shielding Level * ▼

Figure 4-64

2. Type in test location. i.e. Front Entrance
3. Select the configuration and shielding level of the blower door test conducted
4. Type in information collected during the initial blower door test under the pre-wx section

	Pre-Wx	Post-Wx
Tester Name *		
Test Date *		
Test CFM50 *		
Test Conditions *		
BTL Flow Exponent *	0.65	0.65
Outdoor Temperature *		
Heat Loss in BTUs		
Total CFM50 Reduction		
Heat Loss Savings BTUs		
Heat Loss Savings Units		
Heat Loss Savings Dollars		

Figure 4-65

NOTE: A blower door test that is conducted as part of the inspection should be entered under the post-wx section

NOTE: The 'Total CFM50 reduction' is calculated based on the pre and post 'Test CFM50' numbers entered.

- Please document notes in regards to the major leakage sites (and any other comments) in the below shown comment box:

Major Leakage Sites / Problems/Comments	
---	---

Figure 4-66

- Click the button to finish.

NOTE: In order to edit an existing Blower Door test, simply double click on the row for that test.

A blower door test must be added and a post infiltration estimate must exist for this section to be complete.

Add Delete

Test Location	CFM50	HL BTUs	HL Units	HL Dollars	HL BTU Savings	HL Dollar Savings
Side Door	4,506	42,930,245	386	\$ 872.36	12,280,756	\$ 248.60

Figure 4-67

This will re-open the Add/Edit Blower Door Test screen for the user to edit necessary information.

The 'Post Infiltration Estimates' table is intended for the auditor to use in order to properly estimate savings prior to a post audit BD test.

Test Location	CFM50	HL BTUs	HL Units	HL Dollars	HL BTU Savings	HL Dollar Savings
Front Entrance	5,422	48,555,962	499 gal	\$ 1,127.74		

Post Infiltration Estimates

Name	CFM50	HL BTUs	HL Units	HL Dollars	HL Savings BTUs	HL Savings Units	HL Savings Dollars
► Estimate	2,000						
BTL	857	7,677,132	79 gal	\$ 178.54	40,878,830	420 gal	\$ 949.20

HL = Heat Loss

Figure 4-68

The user can type in the CFM50 column what they estimate to be able to bring it down to. The other fields will calculate to show savings after the user clicks outside of the grid.

Post Infiltration Estimates							
Name	CFM50	HL BTUs	HL Units	HL Dollars	HL Savings BTUs	HL Savings Units	HL Savings Dollars
Estimate	2,000	17,910,720	184 gal	\$ 415.84	30,645,242	315 gal	\$ 711.90
BTL	857	7,677,132	79 gal	\$ 178.54	40,878,830	420 gal	\$ 949.20

HL = Heat Loss

Figure 4-69

NOTE: The BTL listed in the 'post infiltration estimate' table is the minimum CFM50 that is recommended for the post blower door test.

NOTE: To delete an existing blower door test:

- i) Click on the appropriate blower door test—highlighting it—in the grid.
- ii) Click on the button.

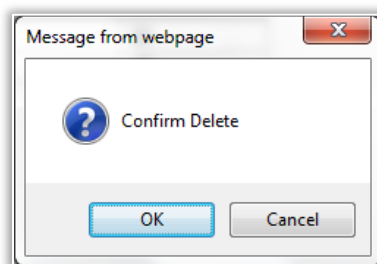


Figure 4-70

- iii) Click on the button to confirm delete.

Ductwork Assess

The ductwork assess section of the energy audit is for entering your ductwork test results

Ductwork Assessment

Ductwork Assessment

General Info

Building Type:	Single Family	Owner:	Eric Saturn
Complex:		Physical Address:	5024 Washington Road, Bunkers Harbor, ME 04613

	<u>Pre-Wx</u>	<u>Post-Wx</u>
Dominant Duct Leak		
Master Bedroom Door Closed		
All Interior Doors Closed		
Fireplace / Woodstove Zone (FPWSZ)		

Figure 4-71

Closed Room Pressures

Add

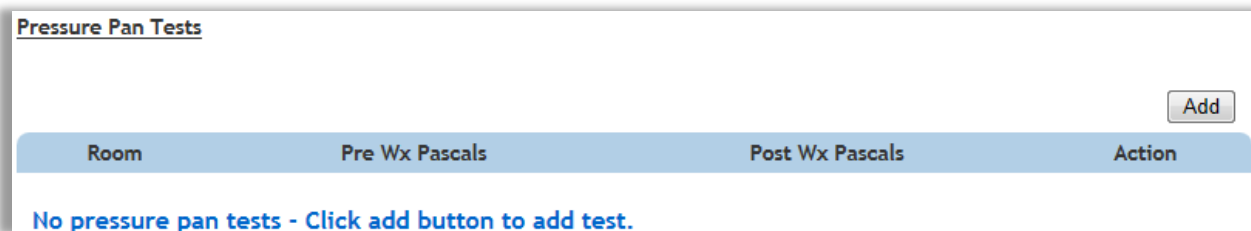
Room	Pre Wx Pascals	Post Wx Pascals	Action
No Closed Room Pressures - Click add button to add.			

Figure 4-72

	<u>Pre-Wx</u>	<u>Post-Wx</u>
Does a fireplace or woodstove draw any portion of its combustion air from a zone that is depressurized more than -3 Pascals WRT Outside? (If yes, pressure relieve)		
As Found Pressure Difference		
Static Pressure		
Duct Declaration		

Figure 4-73

Pressure Pan Tests

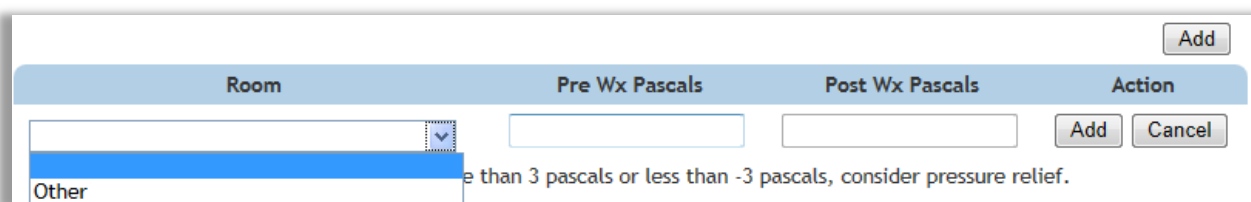


The screenshot shows a web interface titled "Pressure Pan Tests". It contains a table with four columns: "Room", "Pre Wx Pascals", "Post Wx Pascals", and "Action". The table is currently empty. Above the table, there is an "Add" button. Below the table, a message reads: "No pressure pan tests - Click add button to add test."

Room	Pre Wx Pascals	Post Wx Pascals	Action
------	----------------	-----------------	--------

Figure 4-74

1. Click on the  button
2. Select the room name from the dropdown:



This screenshot shows the "Add" button clicked, which has opened a dropdown menu under the "Room" column. The dropdown menu lists "Other" as an option. The "Pre Wx Pascals" and "Post Wx Pascals" columns are empty text input fields. The "Action" column contains "Add" and "Cancel" buttons. A note at the bottom of the form states: "e than 3 pascals or less than -3 pascals, consider pressure relief."

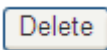
Room	Pre Wx Pascals	Post Wx Pascals	Action
▼ Other			Add Cancel

e than 3 pascals or less than -3 pascals, consider pressure relief.

Figure 4-75

3. Next, hit the 'tab' key on your keyboard and continue to enter the pre-wx value collected during the initial audit.
4. Click the  button to finish.

NOTE: To delete an existing pressure pan test:

- i) Click on the  button associated to the appropriate row in the grid.

Duct Leakage

The duct leakage section is where you will enter in all duct leakage test results

Duct Leakage

General Info

Building Type:	Single Family	Owner:	Alan Smith
Complex:		Physical Address:	409 Venus Street, Augusta, ME 04333

Registers Open	2831	CFM50
Registers Sealed*		CFM50
House to Duct Pressure*		
Subtraction Correction Factor		
Pre-Wx Duct Leakage		CFM50
Estimated Post-Wx Duct Leakage*		CFM50

Figure 4-76

To enter in tasks associated to the Duct Leakage (this task lists ASHRAE tasks)

Note: You must enter in all of the Duct Leakage information prior to adding a task.

Add

Task Name	Task Quantity	Action
No Tasks - Click add button to add.		

Figure 4-77

Click the *add* button to add a Duct Leakage Task; this will bring you to the Duct Leakage Task Detail screen.

Duct Leakage Task Detail

General Info

Building Type: Single Family Owner: Morgan Jones

Complex: Physical Address: 1031 Jones Road, Denmark, ME 04022

Task:

Quantity:

Figure 4-78

Select the task from the available dropdown and enter in quantity.

Once you click the save button, you will be directed back to the Duct Leakage main screen.

Task Name			Task Quantity		Action
Ducts M-Trunk/Flr Reg Trunk			2.00		Edit

Figure 4-79

Ventilation

The ventilation portion of ECOS is where you will enter in ventilation information necessary for ASHRAE calculations

Fill out all devices CFM for each room under Ventilation needed.

Select ASL or Estimate radio button for infiltration estimate.

Ventilation Needed

Room (Required CFM)	Window	Device CFM	Deficit
Kitchen(100.00)	☒ (-20)	0.00	80.00
Main Bath(50.00)	☒ (-20)	0.00	30.00

Total Deficit = 110.00 CFM
Deficit / 4 = 27.50 CFM

3.00 Rooms x 7.50 CFM = 22.50 CFM
980.00 Sq Ft / 100.00 CFM = 9.80 CFM
Ventilation Needed = 59.80 CFM

Infiltration Credit

Select ASL or Estimate

☐ 0 ASL
☒ 3000.00 EST

3,000.00 CFM₅₀ / 18.50 LBL Factor = 162.16 CFM
980.00 Sq Ft x 0.02 CFM = 19.60 CFM

142.56 CFM

Infiltration Credit = 71.28 CFM

Continuous Ventilation Required: = 0.00 CFM

Add Tasks

Location	Quantity	Task	Action
There are currently no ventilation tasks.			

Figure 4-80

Click button once you have entered in necessary information

Add any necessary ventilation tasks by clicking the button

Add Tasks

Location	Quantity	Task	Action
There are currently no ventilation tasks.			

Figure 4-81

Select the location and necessary task from the available dropdowns and click the **Add** button associated to the row

Location	Quantity	Task	Action
			Add Cancel

Figure 4-82

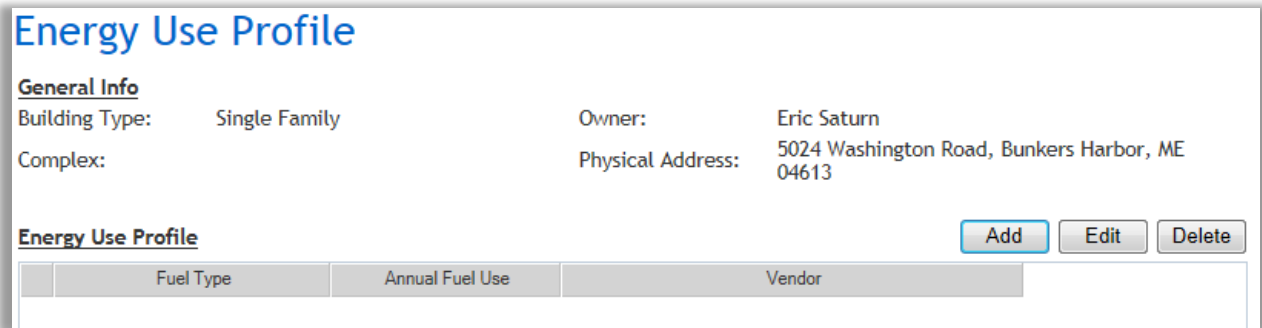
Click **Save** when you have completed the screen.

Energy Use

The Energy Use screen allows you to enter both heating- and non-heating energy use types for a household.

To add an energy use profile:

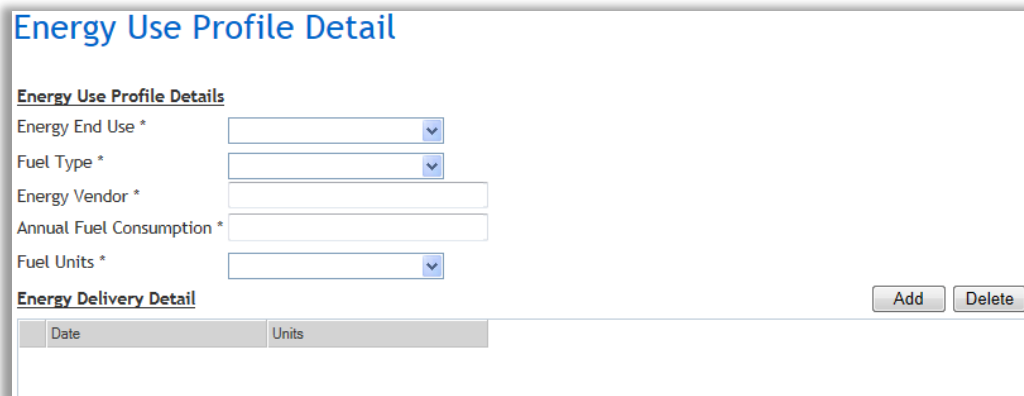
1. Click the  button.



The screenshot shows the 'Energy Use Profile' form. It has a title 'Energy Use Profile' in blue. Below the title is a section 'General Info' with fields for 'Building Type' (Single Family), 'Owner' (Eric Saturn), 'Complex', and 'Physical Address' (5024 Washington Road, Bunkers Harbor, ME 04613). To the right of these fields are three buttons: 'Add', 'Edit', and 'Delete'. Below this is a section 'Energy Use Profile' with a table that has three columns: 'Fuel Type', 'Annual Fuel Use', and 'Vendor'. The table is currently empty.

Figure 4-83

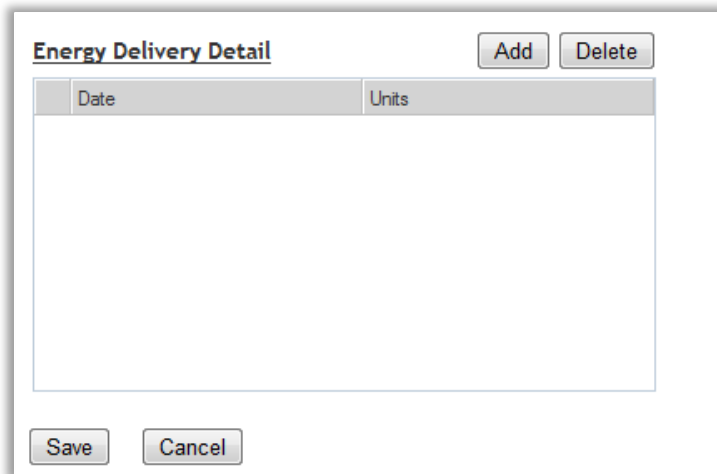
2. Select the energy end use: heating or non-heating from the drop down box
3. Select the fuel type from the drop down box



The screenshot shows the 'Energy Use Profile Detail' form. It has a title 'Energy Use Profile Detail' in blue. Below the title is a section 'Energy Use Profile Details' with five fields: 'Energy End Use *' (dropdown), 'Fuel Type *' (dropdown), 'Energy Vendor *' (text), 'Annual Fuel Consumption *' (text), and 'Fuel Units *' (dropdown). To the right of these fields are two buttons: 'Add' and 'Delete'. Below this is a section 'Energy Delivery Detail' with a table that has two columns: 'Date' and 'Units'. The table is currently empty.

Figure 4-84

4. Type in the energy vendor's name and the annual fuel consumption
5. Select the fuel units from the drop down box
6. If known, add the energy delivery detail to the grid below:



The dialog box is titled "Energy Delivery Detail". It features two buttons at the top right: "Add" and "Delete". Below these is a table with two columns: "Date" and "Units". The table is currently empty. At the bottom of the dialog are two buttons: "Save" and "Cancel".

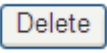
Figure 4-85

NOTE: The energy delivery detail is added by:

- i) Clicking the  button
- ii) Double clicking into the date field and entering the date
- iii) Hitting the 'tab' button on your keyboard
- iv) Entering the units
- v) Repeat steps i-iv as needed

7. Click the  button to finish.

NOTE: To delete an energy use profile or consumption history detail:

- i) Click on the appropriate detail—highlighting it—in the grid.
- ii) Click on the  button.

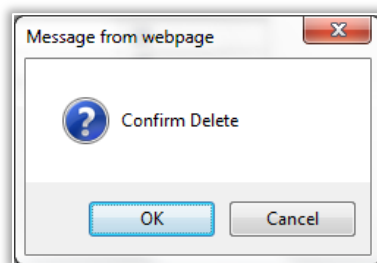
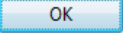


Figure 4-86

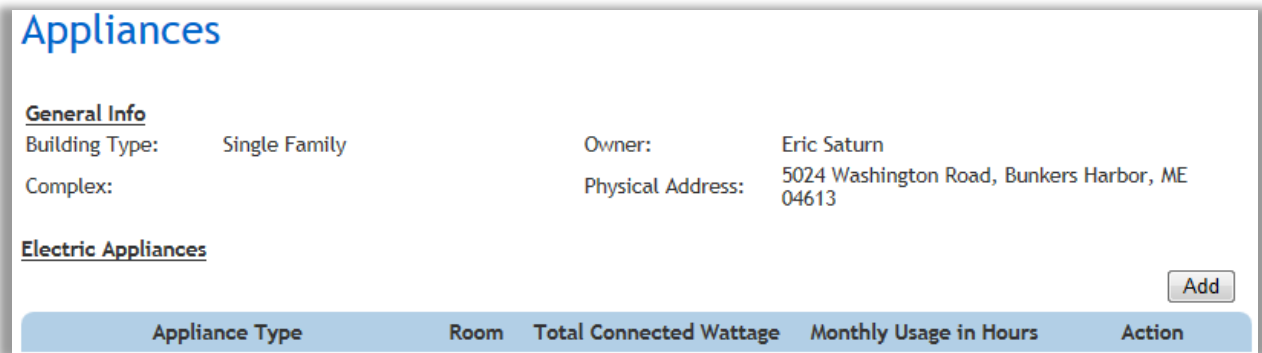
- iii) Click on the  button to confirm delete.

Appliances

The 'Building Appliances' screen allows you to enter electrical- and combustion appliances for a household.

Electrical Appliance

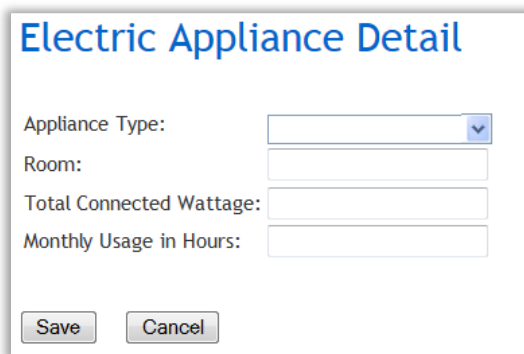
To enter in an electrical appliance:



The screenshot shows a web application titled "Appliances". Under the "General Info" section, there are fields for "Building Type" (Single Family), "Owner" (Eric Saturn), "Complex", and "Physical Address" (5024 Washington Road, Bunkers Harbor, ME 04613). Below this is a section titled "Electric Appliances" with an "Add" button. A table is displayed with the following headers: "Appliance Type", "Room", "Total Connected Wattage", "Monthly Usage in Hours", and "Action".

Figure 4-87

1. Click the  button
2. Select the appliance type from the drop down list and enter the room, total connected wattage, and monthly usage in hours:



The screenshot shows a form titled "Electric Appliance Detail". It contains four input fields: "Appliance Type" (a dropdown menu), "Room", "Total Connected Wattage", and "Monthly Usage in Hours". At the bottom of the form are "Save" and "Cancel" buttons.

Figure 4-88

NOTE: When typing in the name of the appliance, the drop down box will automatically sort its content and automatically expand. If you for instance typed in 'co', then the item of coffee maker would have been selected. To expand the drop down box in order to view its content, please click on the  icon.

Appliance Type: Coffee maker

Room:

Total Connected Wattage:

Monthly Usage in Hours:

Save Cancel

- Air conditioner, window, 8000 Btu
- Auto block heater
- Clothes dryer, electric, 7 loads per week
- Clothes washer, excluding hot water
- Coffee maker**
- Computer
- Crock pot
- Dehumidifier, 30 pint, 12 hours per day
- Dishwasher, excluding hot water
- Electric lawn mower
- Electric blanket
- Fan, ceiling, without light
- Fan, furnace distribution
- Fan, whole-house or attic
- Fan, window

Figure 4-89

3. Click the Save button to finish.

NOTE: To delete an appliance:

- i) Click on the Delete button associated to the appropriate row in the grid.

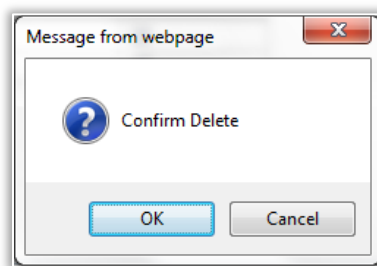


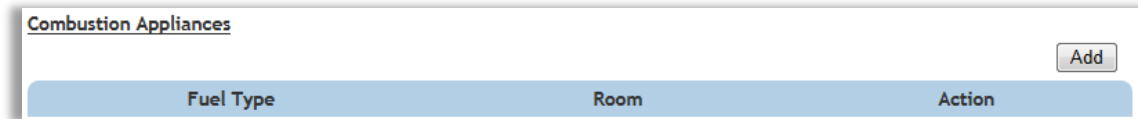
Figure 4-90

- ii) Click on the OK button to confirm delete.

Combustion Appliances

To add a fuel using appliance:

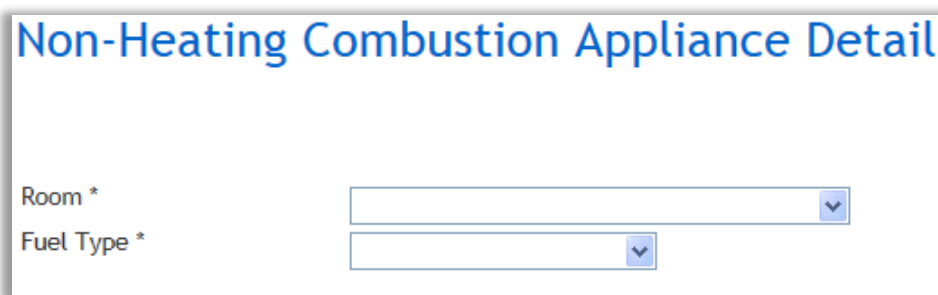
1. Click the  button



Fuel Type	Room	Action
-----------	------	--------

Figure 4-91

2. Type in the location of the combustion appliance and select the fuel type in the drop down list

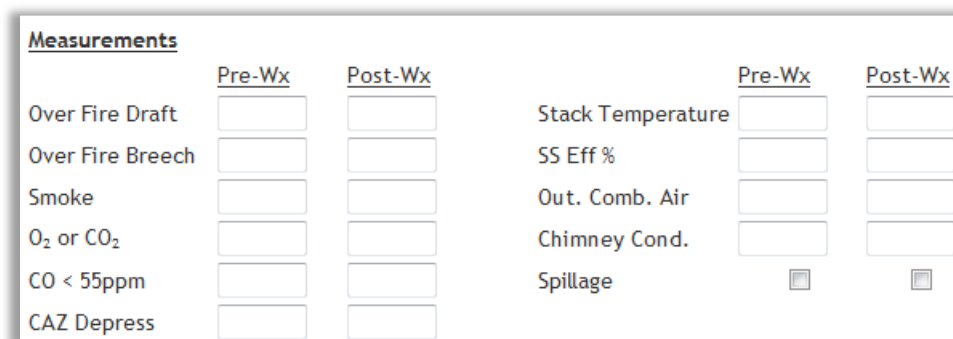


Room *

Fuel Type *

Figure 4-92

3. If available, enter in the measurements collected during the audit



	Pre-Wx	Post-Wx		Pre-Wx	Post-Wx
Over Fire Draft			Stack Temperature		
Over Fire Breech			SS Eff %		
Smoke			Out. Comb. Air		
O ₂ or CO ₂			Chimney Cond.		
CO < 55ppm			Spillage	☐	☐
CAZ Depress					

Figure 4-93

Note: The post-wx data is entered after the inspection has taken place.

4. If applicable, enter in any comments relevant for the combustion appliance

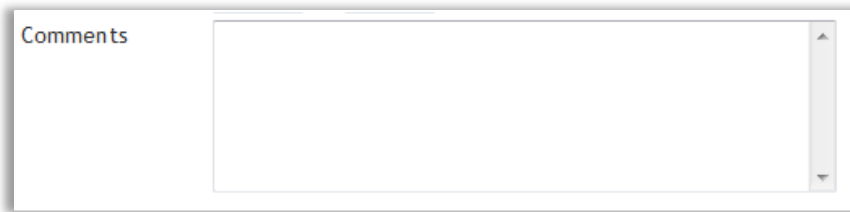


Figure 4-94

5. Click the button to finish.

NOTE: To delete a combustion appliance:

- i) Click on the appropriate appliance—highlighting it—in the grid.
- ii) Click on the button.

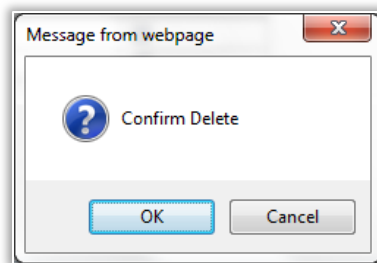


Figure 4-95

- iii) Click on the button to confirm delete.

Lighting

The Lighting screen allows you to enter existing lighting details for a household.

To enter the lighting details for a building:

1. Click the **Add** button.

Building Lighting

General Info

Building Type: Single Family Owner: Eric Saturn

Complex: Physical Address: 5024 Washington Road, Bunkers Harbor, ME 04613

Add

Location	Number of Bulbs	Existing Wattage	Replacement Wattage	Hours/Month	Replacement Cost	Action
There are currently no lighting fixtures for this building unit.						

Figure 4-98

2. Select the room from the location dropdown
3. Hit the 'tab' key on your keyboard to go to the next field
4. Continue to enter in # of bulbs, existing wattage, replacement wattage, hours/month, and replacement cost
5. Repeat steps 1-4 (while clicking the **Add** button on each row) until done

Location	Number of Bulbs	Existing Wattage	Replacement Wattage	Hours/Month	Replacement Cost	Action
Other						Add Cancel

Replacement Cost should be entered on a per-bulb basis)

Figure 4-99

6. Click the **Save** button to finish.

NOTE: To delete a lighting detail:

- i) Click on the **Delete** button associated to the appropriate row in the grid.

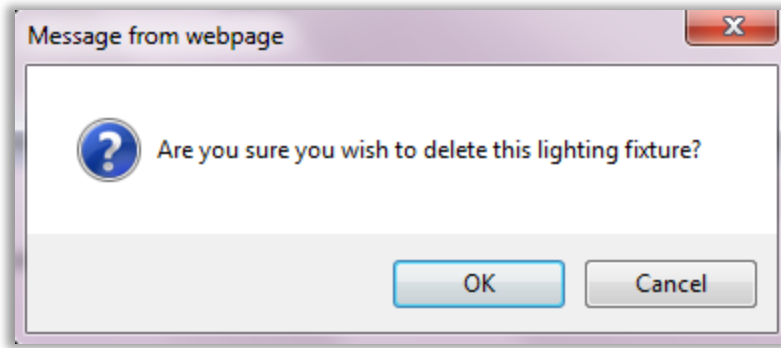
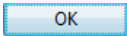


Figure 4-100

- ii) Click on the  button to confirm delete.

Refrigeration

The refrigeration screen allows you to enter existing refrigerators to be replaced.

To add a refrigerator:

1. Click the  button.

Refrigeration

General Info

Building Type: Single Family

Complex:

Owner: Eric Saturn

Physical Address: 5024 Washington Road, Bunkers Harbor, ME 04613

Refrigeration

Add

Appliance Type	Action
There are currently no refrigerators for this building unit.	

Figure 4-101

2. For both existing and replacement appliances:
 - a. Type in Appliance type, brand, year manufactures and model number
 - b. Select Hinge side, defrost type, style, and similar needed information

	Existing Appliance	Replacement Appliance
General		
Appliance *		
Brand		
Year Mfg		
Model Number		
Hinge Side *		
Defrost Type *		
Style *		
Energy Guide		
kWh/year		
Derived From		

Figure 4-102

- c. Enter in the outside dimensions in inches, volume in cubic feet, and the replacement cost

Outside Dimentions (inches)		
Height		
Width		
Depth		
Inside Dimentions (cubic feet)		
Volume		
Replacement Cost		

Figure 4-103

3. Click the button to finish.

NOTE: To delete an ARP:

- i) Click on the button associated to the appropriate row in the

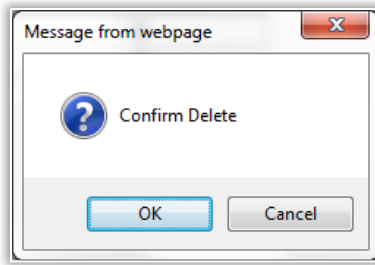
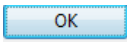


Figure 4-104

- ii) Click on the  button to confirm delete.

Add/Review Job Tasks

The 'Add/Review Job Tasks' screen contains the system- and auditor determined tasks associated with the audit. The system determined tasks are automatically generated based on the pre- and post-code combinations chosen on the building envelope screen. The auditor determined tasks are manually added by the energy auditor based on each audit's needs.

Add/Review Job Tasks

The audit must contain at least one task for this section to be complete.

System-Determined Tasks

Segment	Quantity	Units	Task	Savings in Dollars	Fuel Unit Savings	Carbon Savings	Is Approved
S Wall-S0b	49	SF	Insul Perimeter Wrap 3"	63	28	627	☒
E Wall-E0a	44	SF	Insul Perimeter Wrap 3"	57	25	560	☒
S Wall-S0a	52	SF	Insul Perimeter Wrap 3"	36	16	358	☒
W Wall-W0a	38	SF	Insul Perimeter Wrap 3"	23	10	224	☒
N Wall-N0a	57	SF	Insul Perimeter Wrap 3"	34	15	336	☒
N Wall-N0b	56	SF	Insul Perimeter Wrap 3"	72	32	716	☒
E Wall-E0b	45	SF	Insul Perimeter Wrap 3"	59	26	582	☒

Figure 4-105

Auditor Determined Tasks

Add

Delete

Quantity	Units	Task	Category	Is Approved
1.00	EA	Attic Hatch	Infiltration Reduction	☒
78.00	LF	Molding Trim 1X4	Infiltration Reduction	☒
1.00	EA	Bulkhead Door	Infiltration Reduction	☒
1585.00	SF	Poly 6 Mil	Infiltration Reduction	☒
4.00	SF	Chimney By-Pass Sheet Metal	Infiltration Reduction	☒
78.00	LF	Caulking Latex	Infiltration Reduction	☒
3.00	EA	Caulking Foam	Infiltration Reduction	☒

Task Comments

Please choose a task from a grid above to view it's comments

Add

Delete

Comment	Created By	Created On	Changed By	Changed On
---------	------------	------------	------------	------------

Close Energy Audit

Print Energy Audit

Save

Cancel

Figure 4-106

By default, each listed task (for both systems- and auditor determined tasks) contain a generic set of instructions. These generic instructions can be manually altered by single-clicking on the **task** and utilizing the **Task Comments** table at the bottom of the screen.

Auditor Determined Tasks

Add

Delete

Quantity	Units	Task	Category	Is Approved
1.00	EA	Attic Hatch	Infiltration Reduction	☒
78.00	LF	Molding Trim 1X4	Infiltration Reduction	☒
1.00	EA	Bulkhead Door	Infiltration Reduction	☒
1585.00	SF	Poly 6 Mil	Infiltration Reduction	☒
4.00	SF	Chimney By-Pass Sheet Metal	Infiltration Reduction	☒
78.00	LF	Caulking Latex	Infiltration Reduction	☒
3.00	EA	Caulking Foam	Infiltration Reduction	☒

Task Comments

Please choose a task from a grid above to view it's comments

Add

Delete

Task: Attic Hatch

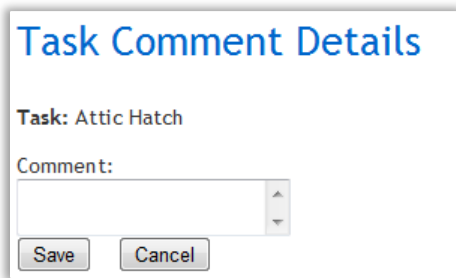
Basic Instructions:

Install a ceiling access way so that it may be readily removed for post inspection by sub-grantee or grantee personnel. Whenever possible the access opening will be at least 5 sf, ideally 2' x 2.5' and in a readily accessible location. Exposed wood must be finished all sides. Addition on Second floor bedroom.

Comment	Created By	Created On	Changed By	Changed On
---------	------------	------------	------------	------------

Figure 4-107

Clicking on the  button above and to the right of the comments table will bring up the Task Comment Details Screen where comments can be added.



The 'Task Comment Details' window has a title bar with the text 'Task Comment Details'. Below the title bar, it displays 'Task: Attic Hatch'. Underneath, there is a label 'Comment:' followed by a text input field. At the bottom of the window, there are two buttons: 'Save' and 'Cancel'.

Figure 4-108

Add/Edit Auditor Determined Task(s)

To add an auditor determined task:

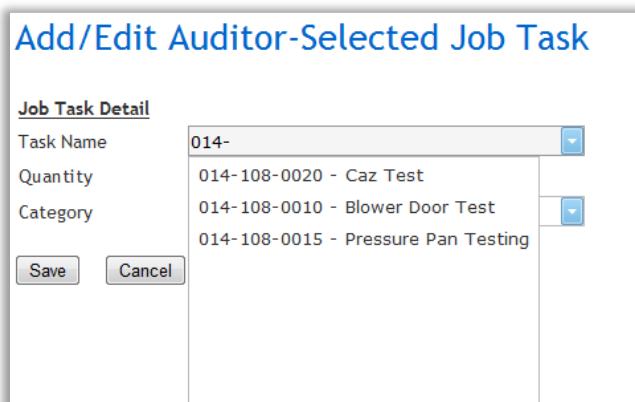
Auditor Determined Tasks



Two buttons are shown side-by-side: 'Add' and 'Delete'.

1. Click on the  button to the right of the 'Auditor Determined Tasks' label.
2. Type or select the appropriate job task name from the drop down list

NOTE: When typing the task code, the drop down box will automatically sort its content.



The 'Add/Edit Auditor-Selected Job Task' window has a title bar with the text 'Add/Edit Auditor-Selected Job Task'. Below the title bar, there is a section titled 'Job Task Detail'. This section contains three labels: 'Task Name', 'Quantity', and 'Category'. To the right of these labels are three input fields. The 'Task Name' field is a dropdown menu showing '014-'. The 'Quantity' field is a text input field. The 'Category' field is a dropdown menu showing a list of three items: '014-108-0020 - Caz Test', '014-108-0010 - Blower Door Test', and '014-108-0015 - Pressure Pan Testing'. At the bottom of the window, there are two buttons: 'Save' and 'Cancel'.

Figure 4-109

NOTE: Even though a task code is entered fully, the task must still be selected by clicking on it.

3. Enter in the quantity.
4. Select the category from the dropdown.

Job Task Detail

Task Name: 061-102-0020 - Framing Pt 2X4

Quantity: 15

Category:
 Conduction
 Incidental Repairs
 Health & Safety
 Infiltration Reduction

Save Cancel

Figure 4-110

- Click the **Save** button to finish.

Delete Audit Determined Task(s)

To delete an audit determined task:

- Single click on the task to be deleted. This will highlight the row.

Auditor Determined Tasks Add Delete

Quantity	Units	Task	Category	Is Approved
1.00	EA	Attic Hatch	Infiltration Reduction	☒
78.00	LF	Molding Trim 1X4	Infiltration Reduction	☒
1.00	EA	Bulkhead Door	Infiltration Reduction	☒
1585.00	SF	Poly 6 Mil	Infiltration Reduction	☒
4.00	SF	Chimney By-Pass Sheet Metal	Infiltration Reduction	☒
78.00	LF	Caulking Latex	Infiltration Reduction	☒
3.00	EA	Caulking Foam	Infiltration Reduction	☒

Figure 4-111

- Click on the **Delete** button

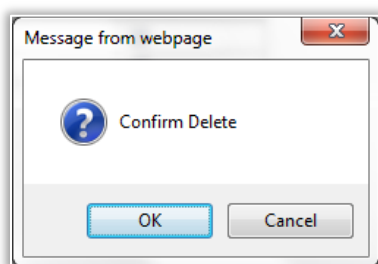
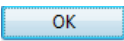


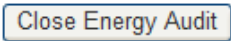
Figure 4-112

3. Click on the  button to confirm delete.

Close of Energy Audit

In order to create a job from the energy audit, the energy audit must first be closed to assure that no changes will occur.

To close an energy audit:

1. Go to the Add/Review Tasks screen for the audit
2. Click the  button

Note: You can always tell if an energy audit is closed, by the red message shown at the top of each screen of the energy audit:

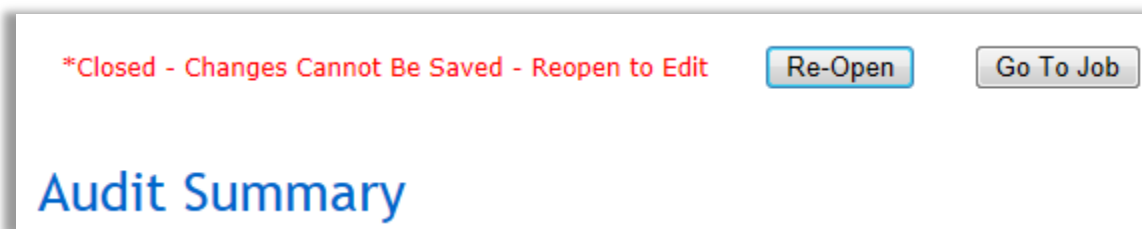


Figure 4-113

It is, however, possible to reopen the energy audit in the case where a change order needs to be submitted.

Reopen Energy Audit

To reopen a closed energy audit:

1. Go to the energy audit menu
2. Search for- and load the energy audit. For more info please see the '[Open Existing Energy Audit](#)' section in the manual.

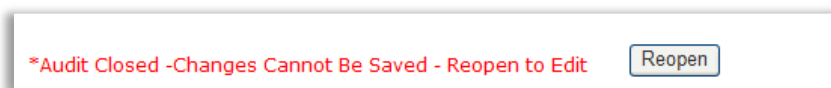
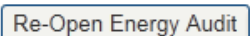


Figure 4-114

3. Click on the  button
4. Next, you will arrive on the audit and job re-open screen
5. Click on the  button

Audit And Job Re-Open

For Physical Address

Address Line 1

Address Line 2

Municipality

Status

Energy Audit

Wx Job

Figure 4-115

6. Next, note that the status changed from Complete to Re-Open.
7. Click on the button to return to the audit.

5. Multi-Family Energy Audit

Create New Energy Audit (Multi-Family Dwelling)

The energy audit section allows you (the energy auditor) to data entry the field form captured during the initial audit.

You will find the Energy Audit section under the Building menu item in the local navigation bar on the left hand side of your screen.

To create a new energy audit:

26. Click on the Buildings menu item shown on the left
27. Click on the button on the 'Buildings' screen:

Buildings

Add

Address	Owner	Building Type	Complex	Action
				Filter
270 Venus Street, Big Ten Township, ME	Lisa Green	Single Family		Edit
8202 Venus Street, Sebasco, ME 04565	Ben Pink	Single Family		Edit
4057 Venus Terrace, West Buxton, ME 04093	William Brown	Single Family		Edit
434 Brown Street, Abbot, ME 04406	Robbie Uranus	Single Family		Edit
15 Elm St, Skowhegan, ME 04976	Peter Simmons	Single Family		Edit
10 Oak St, Skowhegan, ME 04976	Landlords Inc	Single Family		Edit

Figure 5-1

28. Be sure to select the **Multi Family** radio button for building type
29. Click on the button to add a building owner

Building Info

Building Type

☐ Single Family
☒ Multi Family

Owner: Not yet selected

Complex:

Owner Mailing Address Owner Contact Information

Line 1:

Line 2:

Municipality:

Figure 5-2

30. If the owner is not already in the system click the button on the Owner Select screen

Owner Select

☒ Person
 ☐ Organization

Owner Name	Action
Brown, William	Select Edit
Cyan, Ashley	Select Edit
Earth, Gordon	Select Edit
Green, Lisa	Select Edit
Mars, John	Select Edit

Figure 5-3

31. Type in owner's personal information:

Owner Detail

First Name*
 Suffix

Middle Name
 Date of Birth

Last Name*
 Identification Type

Gender*
 Identification Number

Figure 5-4

32. Type in building owners contact information:

The screenshot shows a web form with three tabs: "Address", "Phone", and "E-Mail Address". The "Address" tab is selected. Below the tabs are two buttons: "Add" and "Delete". Below the buttons is a table with the following columns: "Address Type", "Address Line 1", "Address Line 2", "Address Line 3", and "Municipality". The table is currently empty.

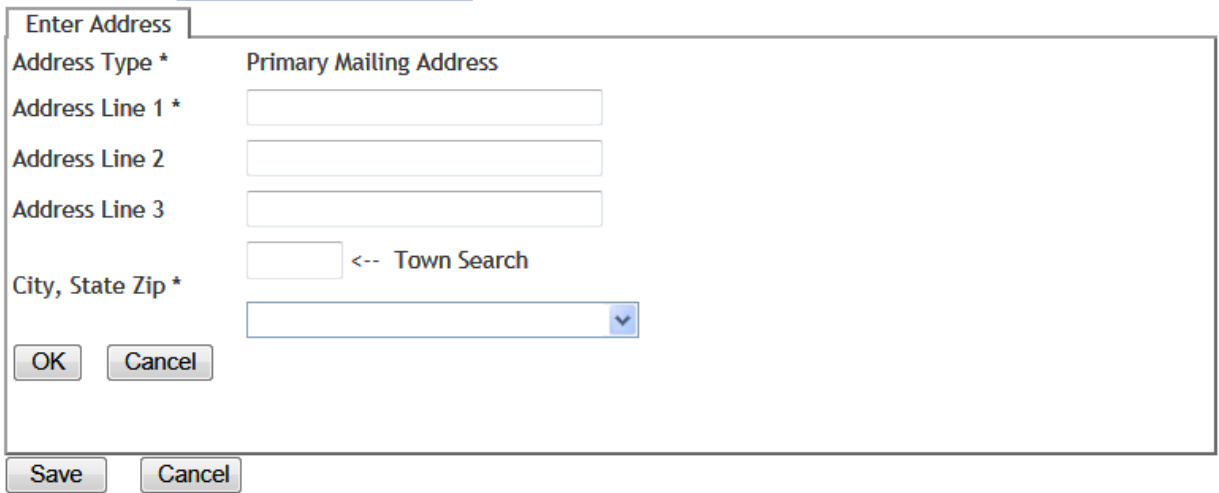
Figure 5-5

33. Click the  button to add an address

The screenshot shows a dialog box titled "Enter Address". It contains the following fields and controls: "Address Type" (a dropdown menu), "Address Line 1 *" (a text input field), "Address Line 2" (a text input field), "Address Line 3" (a text input field), and "City, State Zip *" (a text input field). There is also a "<-- Town Search" button and an "OK" button.

Figure 5-6

34. Enter the owner's address

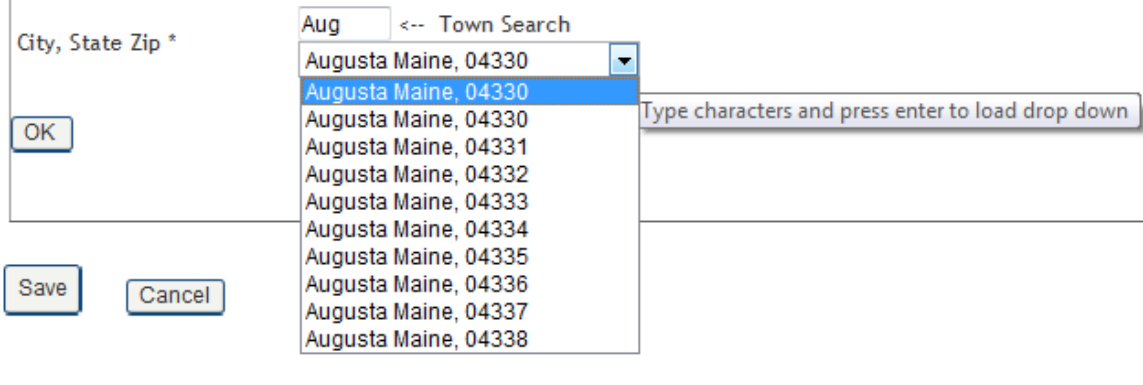


The 'Enter Address' dialog box contains the following fields and controls:

- Address Type ***: Set to 'Primary Mailing Address'.
- Address Line 1 ***: An empty text input field.
- Address Line 2**: An empty text input field.
- Address Line 3**: An empty text input field.
- City, State Zip ***: A text input field containing 'Aug' followed by a '<-- Town Search' button and a dropdown arrow.
- Buttons**: 'OK' and 'Cancel' buttons at the bottom left, and 'Save' and 'Cancel' buttons at the bottom right.

Figure 5-7

35. Type in the first couple letters of the desired town and hit the 'Enter' key on your keyboard.



This screenshot shows the 'City, State Zip *' field with the text 'Aug' entered. A dropdown menu is open, displaying a list of towns in Augusta, Maine, with their zip codes. The first two items, 'Augusta Maine, 04330', are highlighted. A tooltip message 'Type characters and press enter to load drop down' is visible next to the dropdown. The 'OK' button is visible to the left of the dropdown.

Town	Zip
Augusta Maine	04330
Augusta Maine	04330
Augusta Maine	04331
Augusta Maine	04332
Augusta Maine	04333
Augusta Maine	04334
Augusta Maine	04335
Augusta Maine	04336
Augusta Maine	04337
Augusta Maine	04338

Figure 5-8

Note: This will do a search for all towns in the database beginning with these characters.

36. Select the appropriate municipality from the drop down and click the  button. The address will now be displayed in the grid:

Address Type	Address Line 1	Address Line 2	Address Line 3	Municipality
Primary Mailing Address	1 Fake St			Augusta Maine, 04330

Figure 5-9

Note: To edit the address, double click into the appropriate field and edit as needed.

37. Once the address information has been added, click on the phone tab:

Figure 5-10

38. Click on the  button and double click into the phone type field.

Phone Type	Number	Extension	Activation Date
-Choose Contact Type-			05/25/2010
Business Telephone			
Fax Line			
Home Telephone			
Message Telephone			
Cell Phone			

Figure 5-11

39. Select the phone type from the drop down list and hit the 'Tab' key on your keyboard to continue entering in the number (and if appropriate the extension). You can also enter in the number by double clicking into the field instead.

40. Once the phone information has been added, click on the E-Mail Address tab:



Figure 5-12

41. Next, click on the  button and double click into the 'E-mail Type' field.

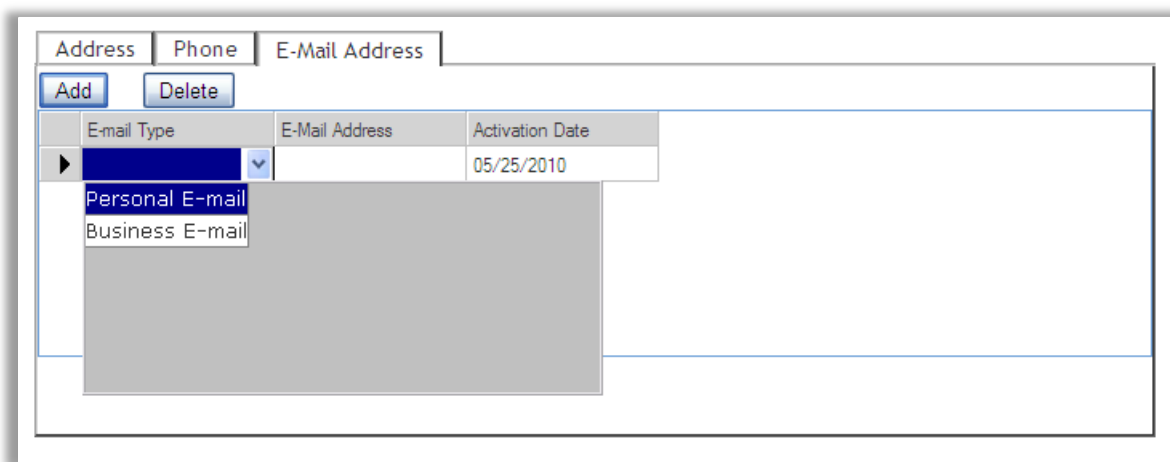


Figure 5-13

42. Select the E-mail Type from the drop down list and hit the 'Tab' key on your keyboard to continue entering in the E-Mail Address. You can also enter in the address by double clicking into the field instead.

43. Click on the  button

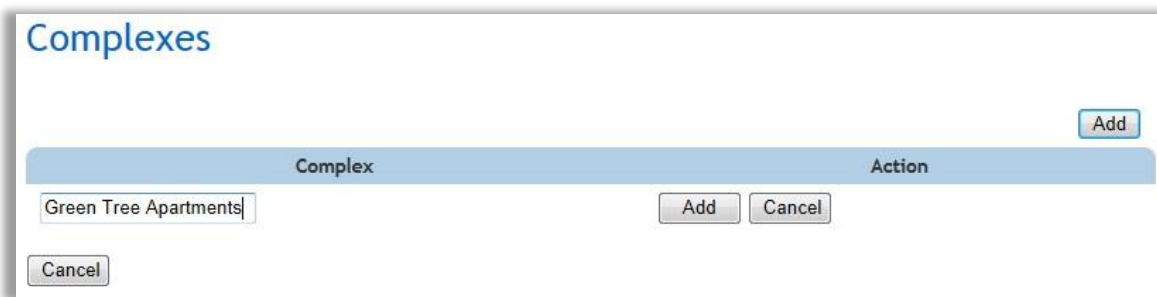
44. Select a complex for the multi family unit utilizing the available dropdown. If the one you will be utilizing does not exist, click the **Add Complex** link
45. This will bring you to the Complexes screen
46. Select the **Add** button



The screenshot shows a web interface titled "Complexes". Below the title is a table with two columns: "Complex" and "Action". The table is currently empty, with the text "No complexes exist yet." displayed below it. To the right of the table, there is an "Add" button. A blue arrow points from the "Add" button in the table's "Action" column to the "Add" button on the right.

Figure 5-14

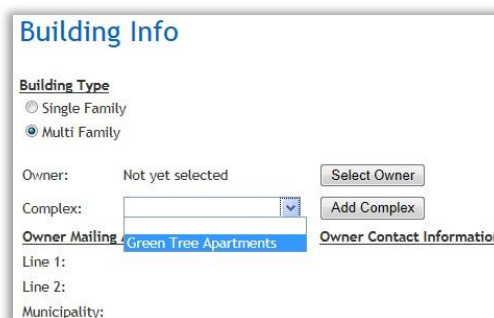
47. Enter in complex name and click the **Add** button associated to the new row



The screenshot shows the "Complexes" screen with a new row added to the table. The "Complex" column contains the text "Green Tree Apartments". The "Action" column contains two buttons: "Add" and "Cancel". There is also a "Cancel" button at the bottom left of the screen.

Figure 5-15

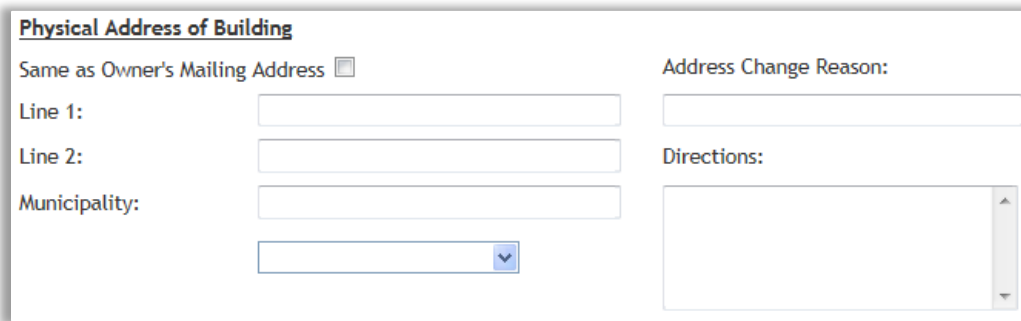
48. Return to the building info screen and select the newly added complex from the dropdown



The screenshot shows the "Building Info" screen. Under the "Building Type" section, "Multi Family" is selected. The "Owner:" field is set to "Not yet selected" with a "Select Owner" button. The "Complex:" dropdown menu is open, showing "Green Tree Apartments" as the selected option. There is also an "Add Complex" button. The "Owner Mailing" section shows "Line 1:", "Line 2:", and "Municipality:" fields. The "Owner Contact Information" section is also visible.

Figure 5-16

49. Next, enter the Physical Address of the building:

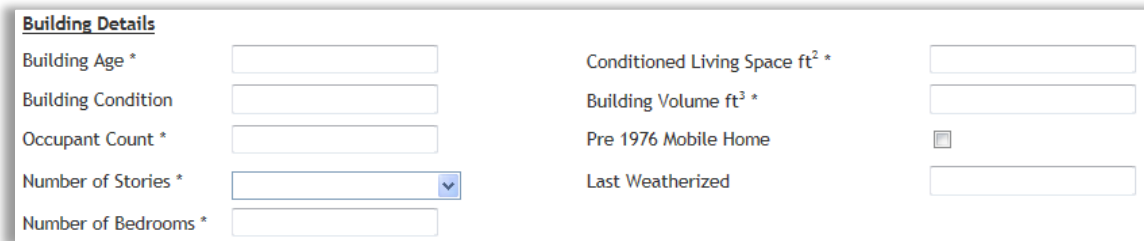


The form is titled "Physical Address of Building". It contains a checkbox labeled "Same as Owner's Mailing Address". Below this are three input fields for "Line 1:", "Line 2:", and "Municipality:". To the right of these fields are two more input fields: "Address Change Reason:" and "Directions:". The "Directions:" field is a larger text area with a vertical scrollbar.

Figure 5-17

Note: If the address is the same as the owners address click the "Same as Owner's Mailing Address" checkbox; this will populate the address information

50. Enter in the Building Details section



The form is titled "Building Details". It contains several input fields and checkboxes. On the left side, there are fields for "Building Age *", "Building Condition", "Occupant Count *", "Number of Stories *" (with a dropdown arrow), and "Number of Bedrooms *". On the right side, there are fields for "Conditioned Living Space ft² *", "Building Volume ft³ *", "Pre 1976 Mobile Home" (with a checkbox), and "Last Weatherized".

Figure 5-18

51. Click on the **Save** button

52. Next the user will click on the Client Info section from the left side menu

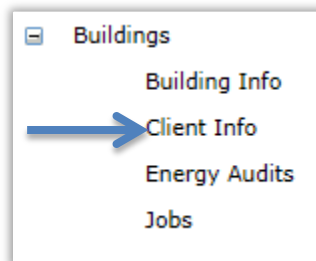


Figure 5-19

53. The user will enter in the necessary information:

Client Info Detail

General Info

Building Type:	Single Family	Owner:	Jennifer Tester
Complex:		Physical Address:	812 Whitefield Road, Pittston, ME 04345

LIHEAP Application Number Attach LIHEAP Application

LIHEAP Application Certification Date

Head of Household Select Head Of Household

Head of Household Mailing Address

☐ Same as Building

Line 1:

Line 2:

Municipality:

Head of Household Contact Information

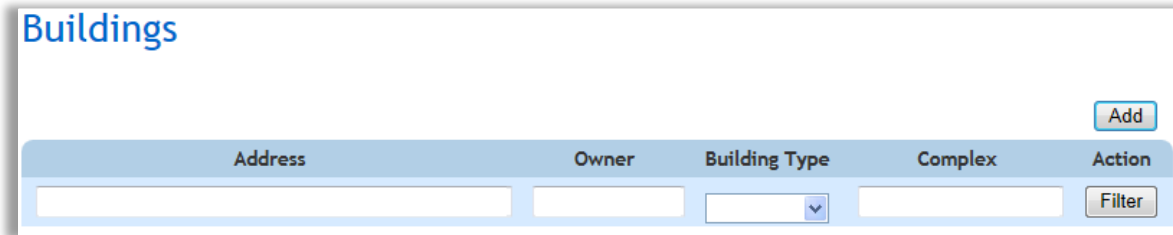
Figure 5-20

54. Select to either create a) a new single family private audit or b) a single family audit based on an existing LIHEAP application.
55. Click on the Save button
56. Next the user will click on the “Energy Audits” item on the left side menu

Open Existing Multi-Family Energy Audit

To open an existing energy audit:

6. You can either search for the existing building by address, owner, building type or by complex:



Address	Owner	Building Type	Complex	Action
		▼		Filter

Figure 5-21

7. For any of the four options, please type in your search and press the button.
8. Next, select the building associated to the energy audit by clicking on the associated button to continue.
9. Next, click on the Energy Audits menu item (on the left side menu). This will bring you to the “Energy Audit Select” screen.

Click on the button to open the associated energy audit.

Multi-Family Energy Audit Menu

The menu on the left behaves differently for the energy audit than for any other area of the system.

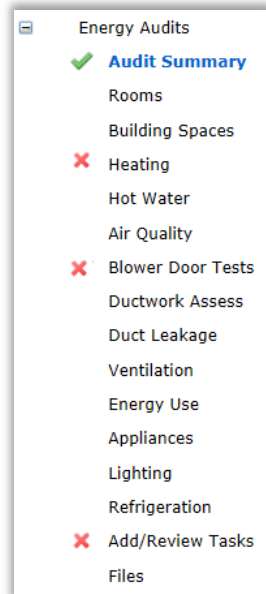


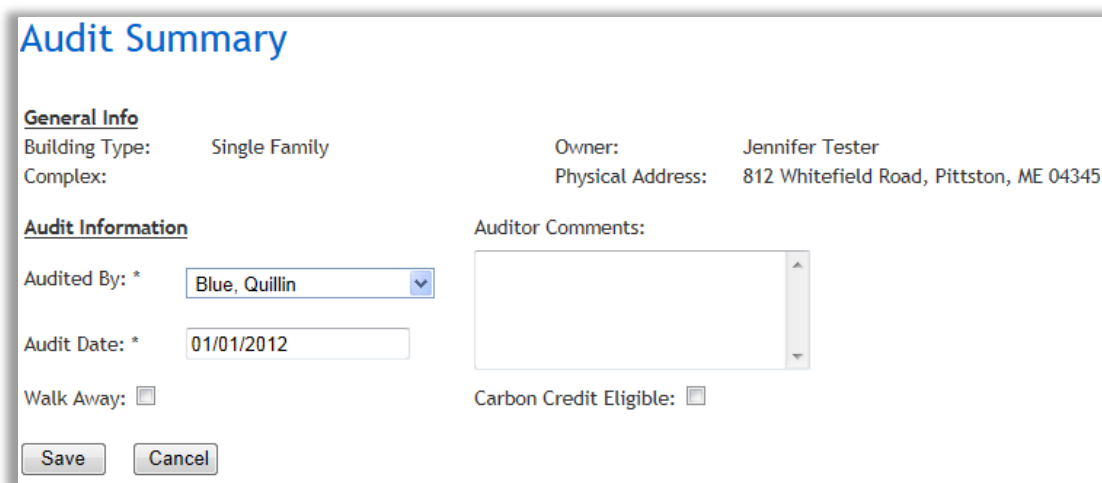
Figure 5-22

The difference is in the red and green icons that display next to specific sections in the menu. The **X**s signify areas where vital audit data is missing. These pages must be completed in order to have correct and accurate calculations. Once an area has been completed to satisfactory standards a **✓** will appear next to that area in the menu.

Multi-Family Audit Summary

On the audit summary screen, you have the ability to view and add information related to the owner of the dwelling. Furthermore, information regarding who audited and inspected the dwelling is also captured.

Note: When the terms ‘client’ and ‘head of household’ are used, they are actually the primary applicant.



The screenshot displays the 'Audit Summary' form. It is divided into two main sections: 'General Info' and 'Audit Information'.
General Info: Includes 'Building Type' (Single Family), 'Owner' (Jennifer Tester), and 'Physical Address' (812 Whitefield Road, Pittston, ME 04345).
Audit Information: Includes 'Audited By' (a dropdown menu showing 'Blue, Quillin'), 'Audit Date' (01/01/2012), 'Walk Away' (checkbox), and 'Carbon Credit Eligible' (checkbox). There is also a text area for 'Auditor Comments'.
At the bottom are 'Save' and 'Cancel' buttons.

Figure 5-23

Walk Away

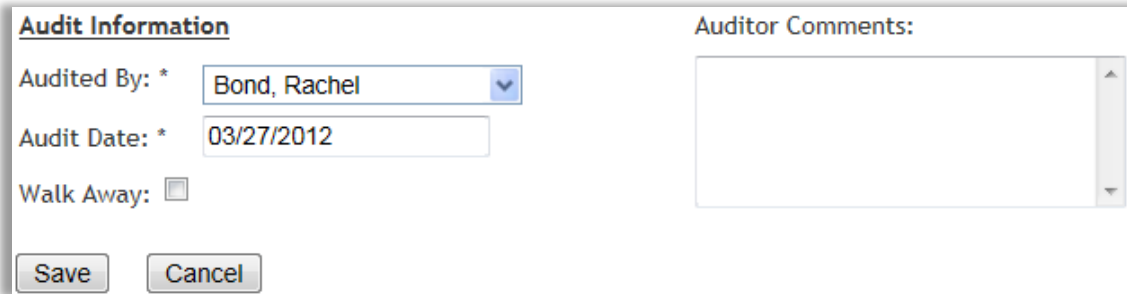
At any time of the audit a client can be marked as a “walk away”. In order to do this, check the walk away box.

The user can also enter any relevant information in the “Walk Away Description” field in order to explain the reason for marking the client as a walk away.

NOTE: When marking an audit as “walk away”, the audit automatically gets closed.

Auditor

The auditor data should never be pre-populated on this form. In order to add the auditor, select the correct person from the “Audited By” dropdown menu. Input the audit date and any relative comments in the appropriate provided fields.



Audit Information

Audited By: *

Audit Date: *

Walk Away: ☐

Auditor Comments:

Figure 5-24

Rooms

The 'Rooms' screen contains information about a dwelling's individual rooms.

- To add a new room select the unit you will be working with (Note: ECOS will default to the first unit on the list)



Rooms in Conditioned Space

General Info

Building Type: Multi Family Client: [Multiple Clients](#)
 Complex: Green Tree Apartments Physical Address: 1846 Red Terrace, Portland, ME 04104

Unit Number	Head of Household	Occupants	Action
1	Blue, Ben	0	
2	Blue, Ben	3	Select
3	Blue, Ben	1	Select
4	Blue, Ben	5	Select

Rooms

Room Type	Room Name	Description	Action
There are currently no rooms for this building unit.			

Figure 5-25

- Click the button
- Select the room type from the dropdown, and then proceed to fill in the room name and description.
- Click to complete adding the row

Room Type	Room Name	Description	Action	
Other	Other	Must Update with actual rooms	Edit	Delete
Kitchen Bedroom Bathroom Living Room Family Room Dining Room Office Other			Add	Cancel

Figure 5-26

9. Repeat the process for each unit as necessary
10. Click on the  button when finished

Heating & Hot Water

The Heating & Hot Water System screens allow you to enter existing water- and heating systems present in the household.

Add Heating System

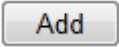
The Heating System screen contains details related to a household's heating systems based on the heating system type, fuel type, priority, and also its pre-/post related efficiency details.

To add a new heating system for the household:

The screenshot shows a web application interface for 'Heating Systems'. At the top, the title 'Heating Systems' is displayed in blue. Below it, a 'General Info' section contains the following details: Building Type: Multi Family, Client: Multiple Clients (a link), Complex: Green Tree Apartments, and Physical Address: 1846 Red Terrace, Portland, ME 04104. To the right of this section is an 'Add' button. Below the general info is a table with five columns: Heating System Type, Fuel Type, Priority, Activation, and Action. The table is currently empty, and a message below it states: 'There are currently no heating systems for this building.'

Heating System Type	Fuel Type	Priority	Activation	Action
There are currently no heating systems for this building.				

Figure 5-27

3. Click the  button, this will bring the user to the Heating System Details screen
4. The user will fill in the fields in the following screen shot (asterisks denote required fields):

Heating System Detail

	Pre-Wx	Post-Wx
Designed Heat Load MBTU/hr	N/A	N/A

Heating System Detail Heating System Improvement

Heating System Type *

Fuel Type *

Nozzle Size

Heating System Priority *

Heating System Condition *

Activation *

Deactivation

Measurements [-]

Test Date

Over Fire Draft Stack Temperature

Over Fire Breech Steady State Efficiency % *

Smoke SSE Source

O₂ or CO₂ Outside Combustion Air

CO < 50ppm ☐ Chimney Cond.

CAZ Depress Smoke Spillage ☐

Comments

Save Cancel

Figure 5-28

From the above shown screen the user will enter all of the pertinent heating system detail for each heating system in the house hold (primary, secondary, and tertiary).

NOTE: If the SS Eff% is left blank for a primary heating system, ECOS will assume the default AFUE associated with the fuel type. Users which have the role of program administer can view the default AFUE value by going to the program admin > drop down maintenance screen and select fuel type.

NOTE: The deactivation date is captured for heating systems no longer in use.

Once all of the required information has been entered the user will then click the *save* button. If any required fields are NOT filled in (or filled in improperly) the system will show verbiage (in red) showing the user what needs to be corrected before the data will save.

The following information is invalid:

- Heating System Type Required
- Priority Required
- Heating system condition is required.
- Activation Required

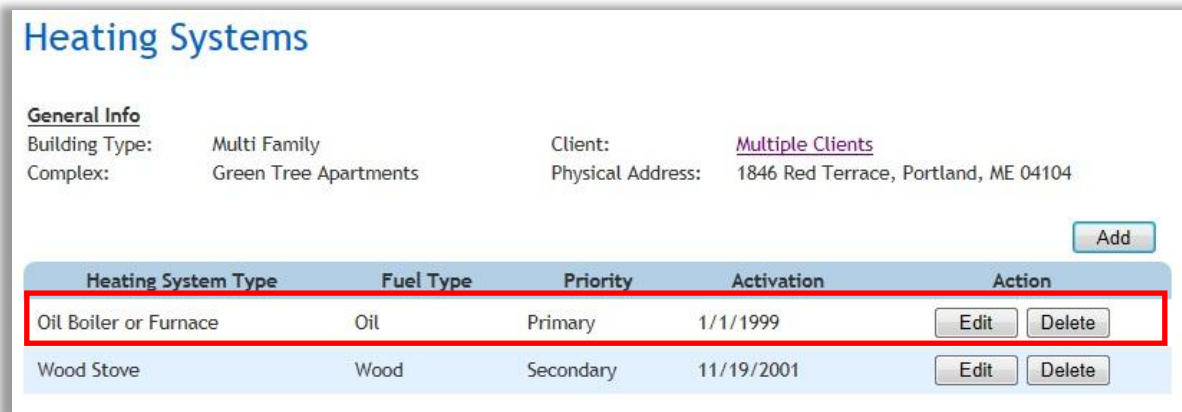
Figure 5-29

Note: An energy audit must have at least one primary fuel system associated in order to complete this section.

Edit Heating System

To edit a heating system the user will need to:

2. Click the edit button associated to the heating system you wish to modify



Heating System Type	Fuel Type	Priority	Activation	Action
Oil Boiler or Furnace	Oil	Primary	1/1/1999	<button>Edit</button> <button>Delete</button>
Wood Stove	Wood	Secondary	11/19/2001	<button>Edit</button> <button>Delete</button>

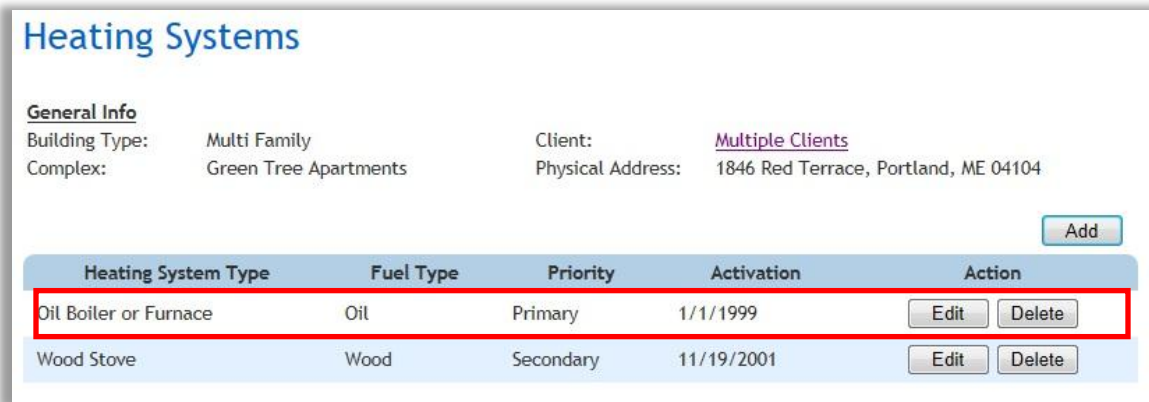
Figure 5-30

This will return the user to the heating system details screen with all of the previously entered data prepopulated. From there the user can modify the necessary information and click the *save* button.

Delete Heating System

To edit a heating system the user will need to:

2. Highlight the heating system that needs to be removed and click on the *delete* button



Heating Systems

General Info

Building Type: Multi Family Client: [Multiple Clients](#)
Complex: Green Tree Apartments Physical Address: 1846 Red Terrace, Portland, ME 04104

[Add](#)

Heating System Type	Fuel Type	Priority	Activation	Action
Oil Boiler or Furnace	Oil	Primary	1/1/1999	Edit Delete
Wood Stove	Wood	Secondary	11/19/2001	Edit Delete

Figure 5-31

ECOS will prompt the user to confirm the deletion.

3. To Delete; click OK
4. Click cancel if *Delete* was clicked in error

Add/Edit Water Heater

The water heater screen contains details related to a household's water heater based on fuel type, priority, and also its pre-/post related efficiency details.

To add a water heater for the household:

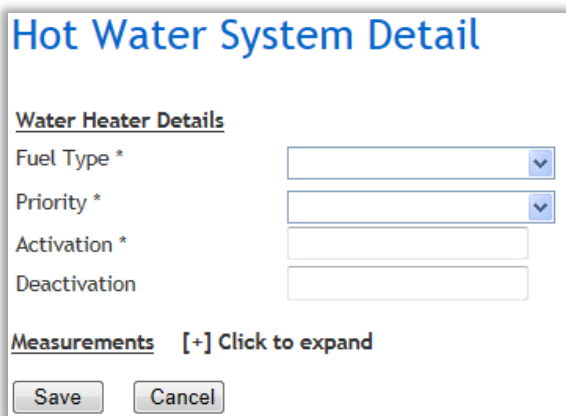


The screenshot shows a web interface titled "Hot Water Systems". Under the "General Info" section, there are fields for "Building Type" (Multi Family), "Complex" (Green Tree Apartments), "Client" (Multiple Clients), and "Physical Address" (1846 Red Terrace, Portland, ME 04104). Below this is a section titled "Water Heaters" with "Add", "Edit", and "Delete" buttons. A table with three columns: "Fuel Type", "Priority", and "Activation" is shown below the buttons.

Figure 5-32

5. Click the  button.
6. Select the fuel type and priority from the drop downs
7. Correct the activation date to reflect the date that the heating system was initially installed.

NOTE: The deactivation date is captured for heating systems no longer in use.



The screenshot shows a web interface titled "Hot Water System Detail". Under the "Water Heater Details" section, there are four fields: "Fuel Type *" (dropdown), "Priority *" (dropdown), "Activation *" (text input), and "Deactivation" (text input). Below these fields is a section titled "Measurements" with a "[+] Click to expand" link. At the bottom are "Save" and "Cancel" buttons.

Figure 5-33

NOTE: For combustion water heating systems, click the  icon to enter PRE and POST data:

Measurements [-] Click to collapse

Test Date

	Pre-Wx	Post-Wx		Pre-Wx	Post-Wx
Over Fire Draft			Stack Temperature		
Smoke			SS Eff %		
O ₂ or CO ₂			Out. Comb. Air		
CO<50PPM	☐	☐	Chimney Condition		
Water Temp. Setting			Ambient Temp.		
Insulation Blanket	☐	☐	Spillage	☐	☐
CAZ Depress					
Comments					

Figure 5-34

- Click on the button to finish.

Note: To delete an existing water heater, first click on the appropriate heater—highlighting it in the grid. Next, click on the button.

Note: Or to modify an existing water heater listed, first double click on the appropriate heater listed and edit as needed.

Heating System Improvements

From the heating systems improvements screen the user has the ability to add heating system improvement tasks as well as control tasks (see screenshot below).

Heating System Improvements

Pre-Wx Post-Wx
Designed Heat Load MBTU/hr N/A N/A

Improvements Add Edit Delete

Improvement

Controls Add Edit Delete

Control	Annual Energy Savi	Cost
---------	--------------------	------

Save Cancel

Figure 5-35

In order to enter the heating system improvements section of the energy audit the user will click on the *Heating System Improvement* button on the Heating System Detail screen.

Heating System Detail

Pre-Wx Post-Wx
Designed Heat Load MBTU/hr N/A N/A

Heating System Detail Heating System Improvement

Heating System Type * Oil Boiler or Furnace

Fuel Type * Oil

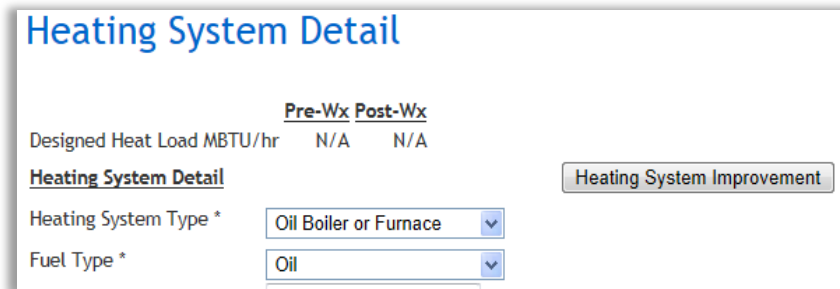
Figure 5-36

Improvements

This is the section where the user can add which improvement tasks need to be done for a specific heating system.

Add Heating Improvement

The user can add a heating improvement task from the *Heating System Detail* screen.

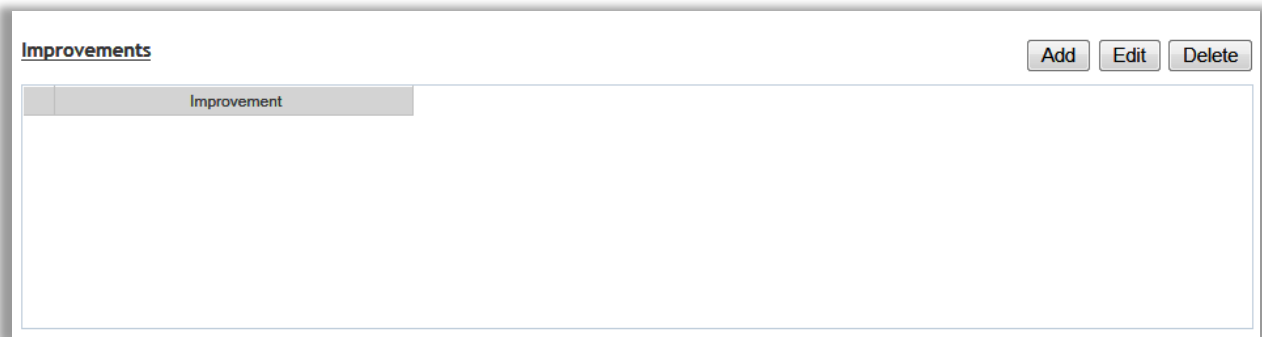


The screenshot shows a web form titled "Heating System Detail". At the top, there are two columns labeled "Pre-Wx" and "Post-Wx". Below these, the text "Designed Heat Load MBTU/hr" is followed by "N/A" under both columns. The form has a section titled "Heating System Detail" with two dropdown menus: "Heating System Type *" (set to "Oil Boiler or Furnace") and "Fuel Type *" (set to "Oil"). To the right of this section is a button labeled "Heating System Improvement".

Figure 5-37

To add heating system improvements task:

5. Click the *Heating System Improvement* button (located in the heating system detail section for necessary heating system)
6. Click the *add* button to the right of the screen above the improvements grid



The screenshot shows a web form titled "Improvements". At the top right, there are three buttons: "Add", "Edit", and "Delete". Below these buttons is a table with a single header row labeled "Improvement". The table body is empty.

Figure 5-38

7. Choose the improvement type from the available dropdown

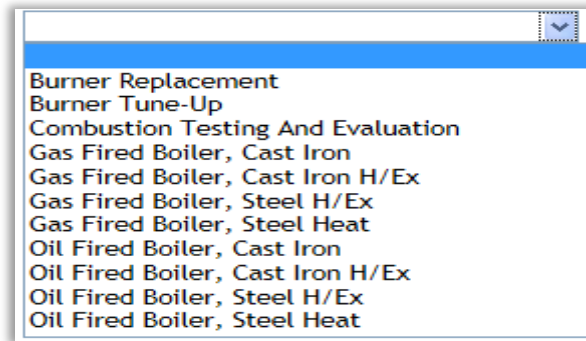


Figure 5-39

Note: the necessary data fields will appear on the screen upon selection of an improvement type. For the purposes of this documentation we will be utilizing Combustion Testing and Evaluation.

Figure 5-40

8. The following fields are required in order to be able to save the data on the screen
 - a. Cost
 - b. Heating Technician
 - c. Heating System Priority
 - d. Activation (date)
 - e. Steady State Efficiency %

Upon entering all of the required data the user can then click the *save* button (if entered data in error, the user can also click *cancel* and they will be redirected back to the heating system improvement screen).

Note: if the user clicks *cancel*, a screen prompt will appear asking for confirmation prior to leaving the heating system improvements detail screen IF there had been data entered. If no data was entered into the screen than ECOS will direct the user back to the heating system improvements screen.

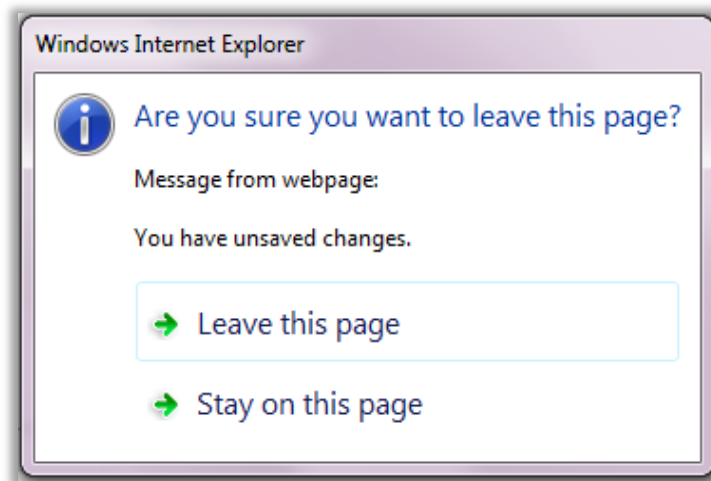


Figure 5-41

Edit Heating Improvement

The user can edit a heating improvement task from the *Heating System Detail* screen.

To edit a heating system task:

4. Highlight the task that is to be modified
5. Click the *edit* button
6. Upon modifying the necessary data the user can then click the *save* button (if entered data in error, the user can also click *cancel* and they will be redirected back to the heating system improvement screen).

Note: If any data on the screen has been changed and the user clicks *cancel* than ECOS will ask the user to confirm that they wish to leave the screen without saving changes.

Delete Heating Improvement

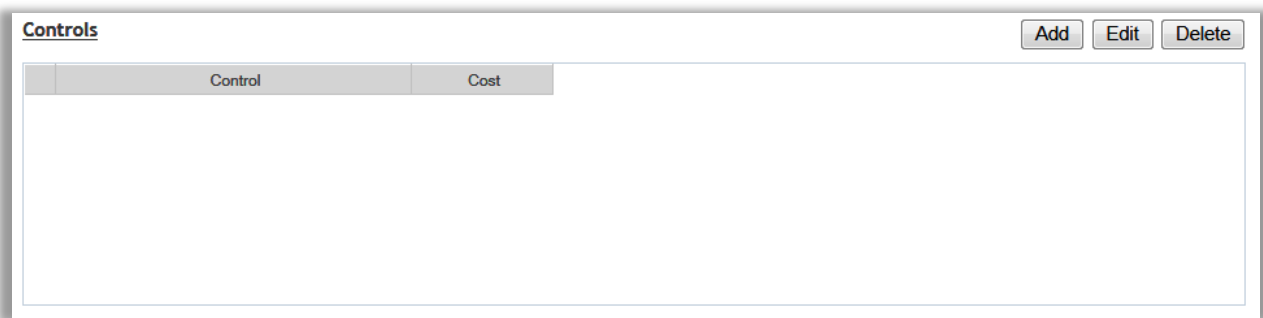
The user can delete a heating improvement task from the *Heating System Detail* screen.

To delete a heating system task:

4. Highlight the task that is to be deleted
5. Click the *delete* button
6. ECOS will remove the task and all associated data from the system

Controls

This portion of ECOS is where the user will add tasks related to the heating system controls.



Control	Cost
---------	------

Figure 5-42

Add Controls

To add heating system controls task:

4. Click the *Heating System Improvement* button (located in the heating system detail section for necessary heating system)
5. Click the *add* button to the right of the screen above the controls grid
6. Choose the Controls type from the available dropdown

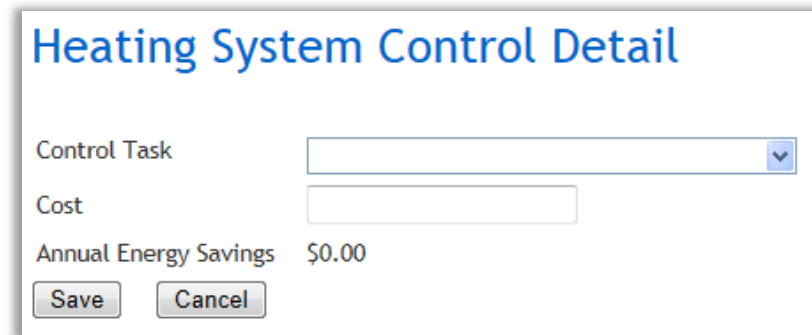
A screenshot of a web form titled "Heating System Control Detail". The form contains three input fields: "Control Task" with a dropdown arrow, "Cost" with a text box, and "Annual Energy Savings" with a text box containing "\$0.00". At the bottom of the form are two buttons: "Save" and "Cancel".

Figure 5-43

Upon entering all of the required data the user can then click the *save* button (if entered data in error, the user can also click *cancel* and they will be redirected back to the heating system improvement screen).

Note: if the user clicks *cancel*, a screen prompt will appear asking for confirmation prior to leaving the heating system improvements detail screen IF there had been data entered. If no data was entered into the screen than ECOS will direct the user back to the heating system improvements screen.

Edit Controls

The user can edit a heating controls task from the *Heating System Detail* screen.

To edit a heating controls task:

4. Highlight the task that is to be modified
5. Click the *edit* button
6. Upon modifying the necessary data the user can then click the *save* button (if entered data in error, the user can also click *cancel* and they will be redirected back to the heating system improvement screen).

Note: If any data on the screen has been changed and the user clicks *cancel* than ECOS will ask the user to confirm that they wish to leave the screen without saving changes.

Delete Controls

The user can delete a heating controls task from the *Heating System Detail* screen.

To delete a heating controls task:

4. Highlight the control that is to be deleted
5. Click the *delete* button
6. ECOS will remove the control and all associated data from the system

Air Quality

The air quality assessment screen allows you to enter the dwelling's air quality hazards, pertaining to both the client and to the dwelling.

Air Quality Assessment

General Info
Building Type: Multi Family Client: [Multiple Clients](#)
Complex: Green Tree Apartments Physical Address: 1846 Red Terrace, Portland, ME 04104

Unit Number	Head of Household	Occupants	Action
1	Blue, Ben	0	
2	Blue, Ben	3	Select
3	Blue, Ben	1	Select
4	Blue, Ben	5	Select

Client Information Moisture Mold/Mildew/Condensation Other Hazards

Check box only if the condition is observed and verified

☐ Smokers	☐ Asthma	☐ Bronchitis	☐ Flu Symptoms
☐ Fatigue	☐ Dehumidifier	☐ Humidifier	☐ Other

Figure 5-44

To enter the air quality assessment collected during the initial audit:

6. Select the unit you wish to enter air quality data for (Note: ECOS will default to the first unit listed)
7. Check off the appropriate check boxes

Note: The tab shown with a white background is the tab selected. Please navigate through the different tabs, by single click.

Client Information Moisture **Mold/Mildew/Condensation** Other Hazards

☐ Dirt Floor ☐ Efflorescence ☐ Sill Rot ☒ Gutters
☐ Standing Water ☐ Firewood ☐ Kitchen Vent ☐ Plumbing Leaks
☐ Sump Pump ☒ Clothes Drying ☐ Bathroom Vent ☐ Humidifier Use
☐ Water Staining ☒ Dryer Not Vented ☐ Roof Leaks ☐ Aquarium
☐ Unvented Space Heater ☐ Other

Figure 5-45

NOTE: To enter comments, please check the 'other' check box and enter in a description:

Client Information Moisture Mold/Mildew/Condensation **Other Hazards**

☐ Dirt Floor ☐ Efflorescence ☐ Sill Rot ☒ Gutters
☐ Standing Water ☐ Firewood ☐ Kitchen Vent ☐ Plumbing Leaks
☐ Sump Pump ☒ Clothes Drying ☐ Bathroom Vent ☐ Humidifier Use
☐ Water Staining ☒ Dryer Not Vented ☐ Roof Leaks ☐ Aquarium
☐ Unvented Space Heater ☒ Other

Other Description

Figure 5-46

8. Next, click the  button to add any air exhaust device present in the dwelling

Existing Air Exhaust Devices 

Location	Device	CFM	Vented	Continuous Running	Action
Other	range hood	160	Yes	No	 
			☐	☐	 

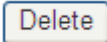
Figure 5-47

9. Enter location of device, device name, CFM, check whether the device is vented to the outside or not, and whether the device is continuously running or not.

NOTE: To edit an existing air exhaust device:

- iii) Click the  button next to the row containing the device to be edited
- iv) Edit as needed.

NOTE: To delete an existing air exhaust device:

- iii) Click on the  button next to the row containing the device to be edited.

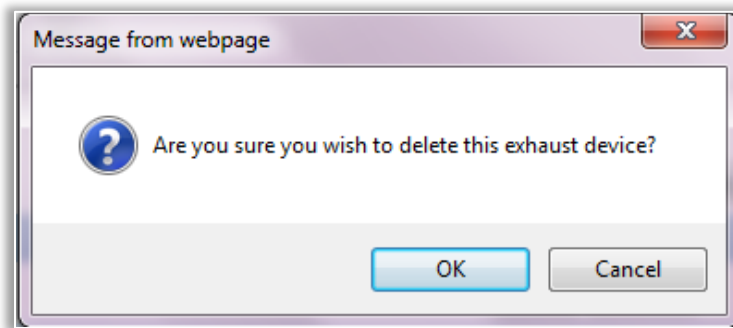
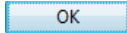


Figure 5-48

- iv) Click on the  button to confirm delete.

10. If there is a need for mechanical ventilation, please check the below shown checkbox and enter a comment describing the need.

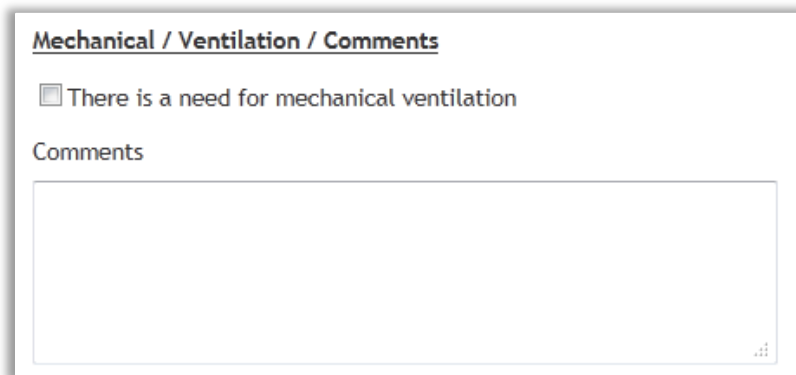


Figure 5-49

11. Click on the  button to finish.

Ductwork Assess

The ductwork assess section of the energy audit is for entering your ductwork test results

Ductwork Assessment

Again; for multi-family audits, you will need to select which unit you are entering in the information for (Note: ECOS automatically defaults to the first unit in the list)

Ductwork Assessment

General Info
Building Type: Multi Family Client: [Multiple Clients](#)
Complex: Green Tree Apartments Physical Address: 1846 Red Terrace, Portland, ME 04104

Unit Number	Head of Household	Occupants	Action
1	Blue, Ben	0	
2	Blue, Ben	3	<button>Select</button>
3	Blue, Ben	1	<button>Select</button>
4	Blue, Ben	5	<button>Select</button>

Dominant Duct Leak

Master Bedroom Door Closed

All Interior Doors Closed

Fireplace / Woodstove Zone (FPWSZ)

Pre-Wx

Post-Wx

Figure 4-50

1. Enter in the ductwork assessment information
2. Select the Save button
3. Repeat this process for each unit

Closed Room Pressures

Add

Room	Pre Wx Pascals	Post Wx Pascals	Action
No Closed Room Pressures - Click add button to add.			

Figure 4-51

	Pre-Wx	Post-Wx
Does a fireplace or woodstove draw any portion of its combustion air from a zone that is depressurized more than -3 Pascals WRT Outside? (If yes, pressure relieve)		
As Found Pressure Difference		
Static Pressure		
Duct Declaration		

Figure 4-52

Pressure Pan Tests

Pressure Pan Tests
Add

Room	Pre Wx Pascals	Post Wx Pascals	Action
No pressure pan tests - Click add button to add test.			

Figure 4-53

- Click on the Add button
- Select the room name from the dropdown:

Add

Room	Pre Wx Pascals	Post Wx Pascals	Action
Other			Add Cancel

more than 3 pascals or less than -3 pascals, consider pressure relief.

Figure 5-54

- Next, hit the 'tab' key on your keyboard and continue to enter the pre-wx value collected during the initial audit.
- Click the Add button to finish.

NOTE: To delete an existing pressure pan test:

ii) Click on the  button associated to the appropriate row in the grid.

Duct Leakage

The duct leakage section is where you will enter in all duct leakage test results

Duct Leakage

General Info

Building Type:

Multi Family

Client:

Multiple Clients

Complex:

Green Tree Apartments

Physical Address:

1846 Red Terrace, Portland, ME 04104

Registers Open

0

CFM50

Registers Sealed*

CFM50

House to Duct Pressure*

Subtraction Correction Factor

Pre-Wx Duct Leakage

CFM50

Estimated Post-Wx Duct Leakage*

CFM50

Figure 5-55

To enter in tasks associated to the Duct Leakage (this task lists ASHRAE tasks)

Note: You must enter in all of the Duct Leakage information prior to adding a task.

Add

Task Name	Task Quantity	Action
No Tasks - Click add button to add.		

Figure 5-56

Click the *add* button to add a Duct Leakage Task; this will bring you to the Duct Leakage Task Detail screen.

Duct Leakage Task Detail

General Info

Building Type: Multi Family
 Complex: Green Tree Apartments
 Client: [Multiple Clients](#)
 Physical Address: 1846 Red Terrace, Portland, ME 04104

Task:

Quantity:

Figure 5-57

Select the task from the available dropdown and enter in quantity.

Once you click the save button, you will be directed back to the Duct Leakage main screen.

Task Name	Task Quantity	Action
Ducts M-Trunk/Flr Reg Trunk	2.00	Edit

Figure 5-58

Ventilation

The ventilation portion of ECOS is where you will enter in ventilation information necessary for ASHRAE calculations

Select the unit you wish to add ductwork assessment for by clicking on the button associated to that unit (Note: ECOS will have already selected the first unit associated to the building)

Fill out all devices CFM for each room under Ventilation needed.

Select ASL or Estimate radio button for infiltration estimate (Note: remember that this process must be completed for EACH unit that is included in the audited building. After you have finished one unit; click the button for the next unit in the grid)

Unit Number	Head of Household	Occupants	Action
1	Red, Nancy	2	
2	Jupiter, Julia	2	<button>Select</button>

Ventilation Needed

Room (Required CFM)	Window	Device CFM	Deficit
Kitchen(100.00)	☐ (-20)		
Bathroom(50.00)	☐ (-20)		

Recalculate

Total Deficit = CFM

Deficit / 4 = CFM

2.00 People x 7.50 CFM = 15.00 CFM

2,000.00 Sq Ft / 100.00 CFM = 20.00 CFM

Ventilation Needed = CFM

Infiltration Credit

Select ASL or Estimate

☐ 1800.00 ASL ☐ 2000.00 EST

0.00 CFM₅₀ / 18.50 LBL Factor = 0.00 CFM

2,000.00 Sq Ft x 0.02 CFM = 40.00 CFM

-40.00 CFM

Infiltration Credit = -20.00 CFM

Continuous Ventilation Required: = CFM

Figure 5-59

Click Recalculate button once you have entered in necessary information

Add any necessary ventilation tasks by clicking the Add button

Add Tasks Add

Location	Quantity	Task	Action
There are currently no ventilation tasks.			

Figure 5-60

Select the location and necessary task from the available dropdowns and click the  button associated to the row



The 'Add Tasks' dialog box features a table with four columns: 'Location', 'Quantity', 'Task', and 'Action'. The 'Location' and 'Task' columns contain dropdown menus, while the 'Quantity' column is an empty text input field. The 'Action' column contains two buttons, 'Add' and 'Cancel'. The dialog has a title bar with the text 'Add Tasks' and a small 'Add' button in the top right corner.

Location	Quantity	Task	Action
			Add Cancel

Figure 5-61

Complete for each unit

Click 

Appliances

The 'Building Appliances' screen allows you to enter electrical- and combustion appliances for a household.

Electrical Appliance

To enter in an electrical appliance:

Appliance Type	Room	Total Connected Wattage	Monthly Usage in Hours	Monthly Kwh Used	Annual Kwh Used	Action	Action
Refrigerator 1	Kitchen	766.00	672.00	514.75	6,177.02	Edit	Delete
Freezer, manual defrost	Kitchen	311.00	670.00	208.37	2,500.44	Edit	Delete
Clothes dryer, electric, 7 loads per week	Kitchen	4,800.00	30.00	144.00	1,728.00	Edit	Delete
Coffee maker	Kitchen	1,100.00	16.00	17.60	211.20	Edit	Delete

Figure 5-62

4. Click the  button
5. Select the appliance type from the drop down list and enter the room, total connected wattage, and monthly usage in hours:

Electric Appliance Detail

Appliance Type:

Room:

Total Connected Wattage:

Monthly Usage in Hours:

Figure 5-63

NOTE: When typing in the name of the appliance, the drop down box will automatically sort its content and automatically expand. If you for instance typed in 'co', then the item of coffee maker would have been selected. To expand the drop down box in order to view its content, please click on the  icon.

Appliance Type: Coffee maker

Room:

Total Connected Wattage:

Monthly Usage in Hours:

Save Cancel

- Air conditioner, window, 8000 Btu
- Auto block heater
- Clothes dryer, electric, 7 loads per week
- Clothes washer, excluding hot water
- Coffee maker**
- Computer
- Crock pot
- Dehumidifier, 30 pint, 12 hours per day
- Dishwasher, excluding hot water
- Electric lawn mower
- Electric blanket
- Fan, ceiling, without light
- Fan, furnace distribution
- Fan, whole-house or attic
- Fan, window

Figure 5-64

6. Click the Save button to finish.

NOTE: To delete an appliance:

- iii) Click on the Delete button associated to the appropriate row in the grid.

Message from webpage

? Confirm Delete

OK Cancel

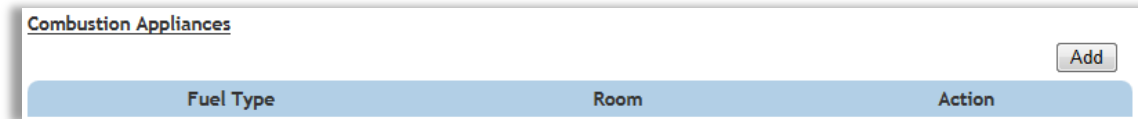
Figure 5-65

- iv) Click on the OK button to confirm delete.

Combustion Appliances

To add a fuel using appliance:

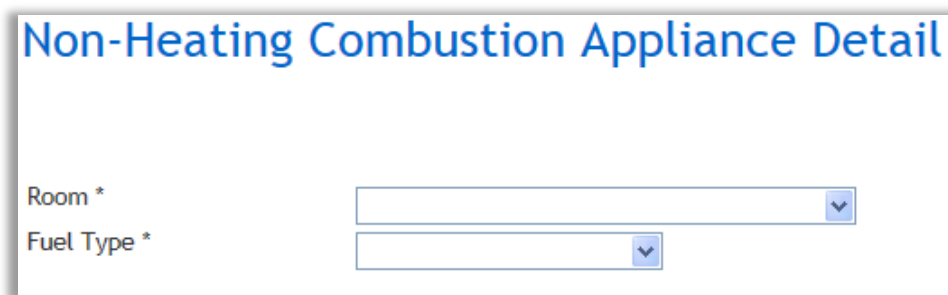
- Click the  button



Fuel Type	Room	Action
-----------	------	--------

Figure 5-66

- Type in the location of the combustion appliance and select the fuel type in the drop down list

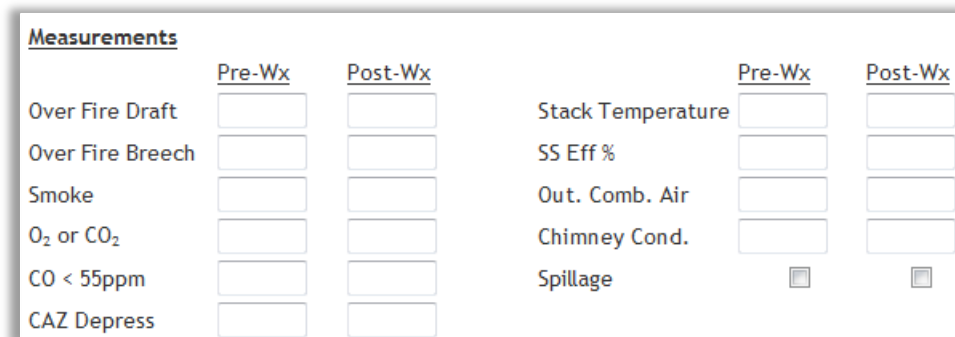


Room *

Fuel Type *

Figure 5-67

- If available, enter in the measurements collected during the audit



	Pre-Wx	Post-Wx		Pre-Wx	Post-Wx
Over Fire Draft			Stack Temperature		
Over Fire Breech			SS Eff %		
Smoke			Out. Comb. Air		
O ₂ or CO ₂			Chimney Cond.		
CO < 55ppm			Spillage	☐	☐
CAZ Depress					

Figure 5-68

Note: The post-wx data is entered after the inspection has taken place.

- If applicable, enter in any comments relevant for the combustion appliance

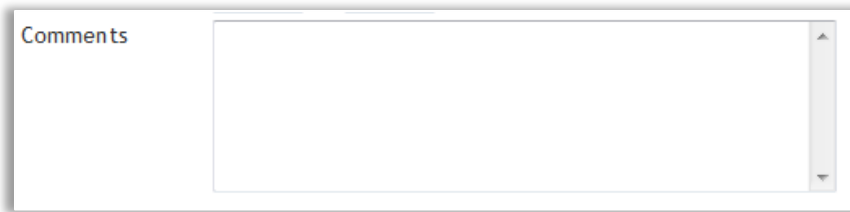
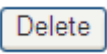


Figure 5-69

10. Click the  button to finish.

NOTE: To delete a combustion appliance:

iv) Click on the appropriate appliance—highlighting it—in the grid.

v) Click on the  button.

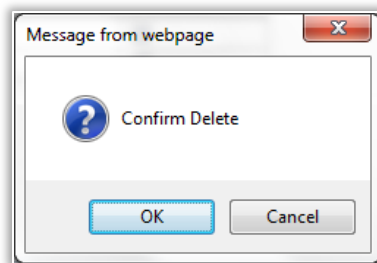
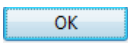


Figure 5-70

vi) Click on the  button to confirm delete.

Lighting

The Lighting screen allows you to enter existing lighting details for a household.

Select the unit you wish to add lighting for by clicking on the  button associated to that unit
(Note: ECOS will have already selected the first unit associated to the building)

To enter the lighting details for a building:

1. Click the  button.



Building Lighting

General Info
Building Type: Multi Family Client: [Multiple Clients](#)
Complex: Green Tree Apartments Physical Address: 1846 Red Terrace, Portland, ME 04104

Unit Number	Head of Household	Occupants	Action
1	Blue, Ben	0	
2	Blue, Ben	3	
3	Blue, Ben	1	
4	Blue, Ben	5	

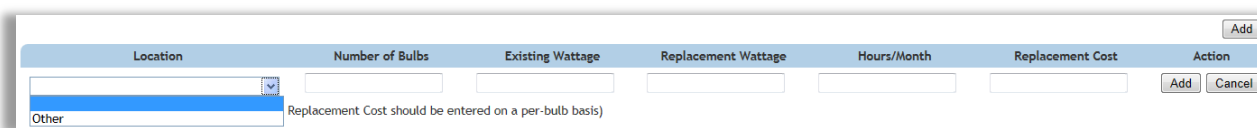


Location	Number of Bulbs	Existing Wattage	Replacement Wattage	Hours/Month	Replacement Cost	Action
----------	-----------------	------------------	---------------------	-------------	------------------	--------

There are currently no lighting fixtures for this building unit.

Figure 5-71

2. Select the room from the location dropdown
3. Hit the 'tab' key on your keyboard to go to the next field
4. Continue to enter in # of bulbs, existing wattage, replacement wattage, hours/month, and replacement cost
5. Repeat steps 1-4 (while clicking the  button on each row) until done

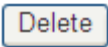


Location	Number of Bulbs	Existing Wattage	Replacement Wattage	Hours/Month	Replacement Cost	Action
						 
Other	Replacement Cost should be entered on a per-bulb basis					

Figure 5-72

6. Click the  button to finish.

NOTE: To delete a lighting detail:

- iii) Click on the  button associated to the appropriate row in the grid.

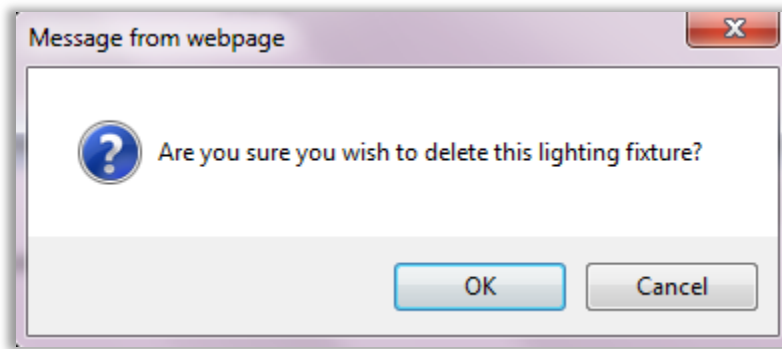
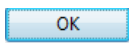


Figure 5-73

- iv) Click on the  button to confirm delete.

Refrigeration

The refrigeration screen allows you to enter existing refrigerators to be replaced.

Select the unit you wish to add lighting for by clicking on the button associated to that unit
(Note: ECOS will have already selected the first unit associated to the building)

To add a refrigerator:

4. Click the button.

Refrigeration

General Info

Building Type: Multi Family Client: [Multiple Clients](#)
Complex: Green Tree Apartments Physical Address: 1846 Red Terrace, Portland, ME 04104

Unit Number	Head of Household	Occupants	Action
1	Blue, Ben	0	
2	Blue, Ben	3	Select
3	Blue, Ben	1	Select
4	Blue, Ben	5	Select

Refrigeration

Appliance Type	Action
There are currently no refrigerators for this building unit.	

Figure 5-74

5. For both existing and replacement appliances:
 - a. Type in Appliance type, brand, year manufactures and model number
 - b. Select Hinge side, defrost type, style, and similar needed information

	Existing Appliance	Replacement Appliance
General		
Appliance *		
Brand		
Year Mfg		
Model Number		
Hinge Side *		
Defrost Type *		
Style *		
Energy Guide		
kWh/year		
Derived From		

Figure 5-75

- c. Enter in the outside dimensions in inches, volume in cubic feet, and the replacement cost

Outside Dimentions (inches)		
Height		
Width		
Depth		
Inside Dimentions (cubic feet)		
Volume		
Replacement Cost		

Figure 5-76

6. Click the button to finish.

NOTE: To delete an ARP:

- iii) Click on the button associated to the appropriate row in the

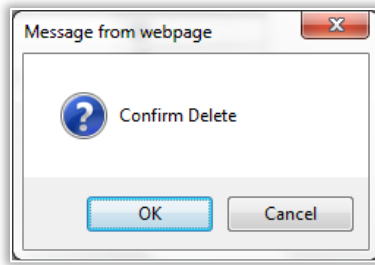
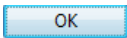


Figure 5-77

- iv) Click on the  button to confirm delete.

6. Job

The job section allows the energy auditor to create a new job by assigning a weatherization technician to generate a work order. You also have the ability to create an audit summary report, final inspection report, and change orders

Create a New Job

Once an audit is completed and “closed”, it is ready to be opened as a Job.

To create a new job:

1. Click the “Job” menu item shown to the left
2. Click on the  button

Jobs Select

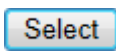
General Info
Building Type: Single Family
Complex:

Owner: Andy Freeman
Physical Address: 2402 Saturn Lane, North Leeds, ME 04263

Add

Audit Date	Primary Wx Technician	Status	Action
------------	-----------------------	--------	--------

Figure 6-1

3. Click the  button to select the closed audit from which the job should be create for:

Energy Audit Select

Client	Owner (If not client)	Physical Address	Action
Saturn, Eric	Saturn, Eric	5024 Washington Road Bunkers Harbor, ME 04613	<button>Select</button>

Figure 6-2

- Next you will arrive at the task selection screen.

Task Selection

Job - Task Selection

General Info

Client Name Red, Lisa

Job Address 4607 Pluto Road Marrtown, ME 04548

Technician Bid* Weatherization Experts - PCAP

Total Job Cost \$4,989.70 Total Job SIR 5.44

Annual Savings \$1,753.76 Total Carbon Saved 17367 lbs

Figure 6-3

NOTE: The screen displays general info in regards to the total job cost, total job SIR, total carbon saved, and total energy cost saved. These fields are automatically updated when a Wx Technician is chosen from the drop down list.

NOTE: This screen furthermore contains the system determined, auditor selected tasks, and mechanical system tasks which were also shown on the add/review tasks screen in the energy audit section:

Conduction Tasks										Select All	Deselect All
Building Segment - Task	Task Code	Quantity	Technician Bid	Total Cost	SIR	Approved	Reconciled				
Other	166-140-0010	3.00	BIOS Environments - KVCAP Mobile Homes	\$2.13	0.00	☒	☐				

Mechanical System Tasks					
Task	AFUE Savings	Carbon Savings (lb)	Total Cost	SIR	Approved

Infiltration Estimates											
Name	CFM50	HL BTUs	HL Units	HL Dollars	HL Savings BTUs	HL Savings Units	HL Savings Dollars	HL Savings Carbon	HL Savings SIR	HL Savings %	Approved
Estimate	0.00	0.00	355.00	\$0.00	27,940,663.00	355	\$802.30	7945	0.00	1.0000	☐
BTU	1,378.00	13,600,224.00	182.00	\$389.99	14,340,439.00	182	\$411.32	4073	0.00	0.5100	☐

Auditor-Selected Tasks								Select All	Deselect All
Task	Quantity	Technician Bid	Cost	Category	Approved	Reconciled			

Figure 6-4

NOTE: On the Job-Task Selection screen, the [Go To Energy Audit](#) can be used to view the associated energy audit.

5. Select a Wx Technician and a specific bid for the selected technician.
6. Review which tasks to approve for the work:

NOTE: You have the ability to either select all or deselect all, by clicking on the appropriate button for each section: System-Determined Tasks, Mechanical System Tasks, Universal Infiltration Task, and Auditor-Selected Tasks.

7. Click on [Save](#) the button

NOTE: If there are any issues or requirements not met on this screen a message will be generated after saving.

Job - Task Selection

The following information is invalid:

- You must choose at least one infiltration task and one infiltration estimate.

General Info

Client Name Red, Lisa

Job Address 4607 Pluto Road Marrtown, ME 04548

Figure 6-5

This message appears at the top of the screen.

NOTE: If changes are made to a reopened audit, a red x mark will appear next to the task selection menu item shown on the left:  **Task Selection** .

The red x indicates that the user must click the save button to update/refresh the calculations for the reports.

NOTE: After saving, the red x indicator will change to a green checkmark:  **Task Selection**

The green check mark indicates that the reports use the correct values from the audit and task selection screen

8. Next step is to create the work order. Please see “Printing of Work Order and Other Reports section” below for more info.

Adding Multiple Wx Technicians to a Job

1. After a Wx Technician and Bid are selected for a job, the “Technician Bid” column will be populated for each task with that bid. In order to apply a different Technician Bid to a specific task, double click on the row for the task you would like to update the “Technician Bid” column on.

Building Segment - Task	Task Code	Quantity	Technician Bid	Total Cost	SIR	Approved	Reconciled
Attic/Ceiling main house	072-101-0026	288.00	Advanced Energy Conservation Systems - KV	\$0.00	0.00	☒	☐
Wall ELAundry room ceiling	072-101-0030	90.00	Advanced Energy Conservation Systems - KV	\$202.50	1.02	☒	☐
▶ Wall ELAundry room ceiling 2	072-101-0030	90.00	Advanced Energy Conservation Systems - KV	\$202.50	1.19	☒	☐
Wall EBarn stairs	072-101-0030	20.00	Advanced Energy Conservation Systems - KV	\$45.00	5.52	☒	☐
Wall SOA	072-115-0010	10.00	Not chosen	\$0.00	0.00	☒	☐
Wall WOA	072-115-0010	23.00	Not chosen	\$0.00	0.00	☒	☐
Wall NOA	072-115-0010	7.50	Not chosen	\$0.00	0.00	☒	☐

Figure 6-6

2. This will bring the user to the Job – Task Detail screen.

Task:

Insul Cellulose Wall

Quantity:

90.00

Carbon Saved:

104.83 lbs

Technician Bid:

Advanced Energy Conse 

Category:

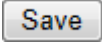
Advance Spray Foam - KVCAP Foam

Advanced Energy Conservation Systems - KVCAP Mobile Home

Advanced Energy Conservation Systems - KVCAP Stick Built

BIOS Environments - KVCAP Mobile Homes

Figure 6-7

3. Select the technician from the “Technician Bid” dropdown
4. Click on the  button
5. Next step is to create the work order. Please see “Printing of Work Order and Other Reports section” below for more info.

Materials Management

From here you can add a purchase order to the job and associate materials required and materials used.

1. To add a purchase order click the **Add** button
2. Enter in vendor name or select the *From Inventory* checkbox
 - a. Selecting the *From Inventory* checkbox will default the vendor name field to From Inventory
3. To add material click the **Add** button again

Material	Quantity	Unit	Amount	Action
				Add Cancel

Figure 6-8

4. The materials dropdown is a prepopulated list that holds all materials allowed from the materials dropdown maintenance screen.
5. Enter in quantity, unit, and dollar amount.
6. Click **Add** to finalize the addition of the row
7. To associate a task to the material used click on the **Select** button

Task	Amount	Action
No tasks have been added.		

Figure 6-9

8. Click the **Add** button to open up the grid to select task
9. Click the save button when you have finished associating tasks to their materials

Summary

The job summary screen displays an overview of the different task categories. Each category displays a summarized cost and average SIR.

Job - Summary

General Info

Building Type: Single Family
Complex:

Owner: James Uranus
Physical Address: 5825 Washington Street, Lily Bay, ME 04441

Category Totals:

Category	Cost	SIR
Conductive	\$560.00	10.48
Conductive	\$94.50	0.00
Incidental Repairs	\$100.00	N/A
Health & Safety	\$325.00	N/A
Infiltration Reduction	\$600.70	7.43

Figure 6-9

NOTE: The infiltration reduction task SIR is calculated based on the post infiltration estimate chosen on the job task selection screen: Estimate or BTL

Infiltration Estimates

Name	CFM50	HL BTUs	HL Units	HL Dollars	HL Savings BTUs	HL Savings Units	HL Savings Dollars	HL Savings Carbon	HL Savings SIR	HL Savings %	Approved
Estimate	1,500	15,876,886	180 gal	\$482.40	15,876,887	180 gal	\$482.40	3,877 lbs	10.23	50.00	☒
BTL	930	9,843,670	111 gal	\$297.48	21,910,103	248 gal	\$664.64	5,342 lbs	14.09	68.99	☐

Figure 6-10

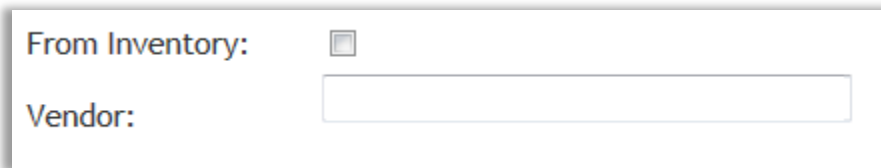
Purchase Orders

The purchase orders screen is the area to store information related to materials management.

The materials dropdown is prepopulated from the items listed under Dropdown maintenance – Materials.

Create Purchase Order

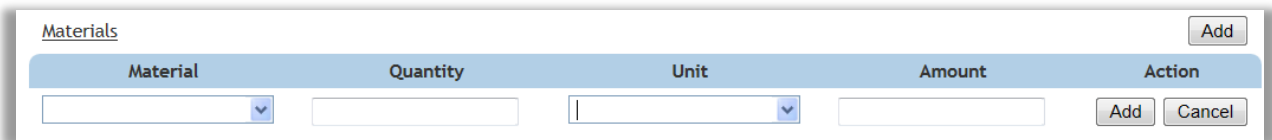
1. To create a purchase order click the **Add** button
2. From here the following will appear on the screen
 - a. From Inventory checkbox
 - i. If this checkbox is marked than the vendor name text box will no longer be editable and will have the words “from inventory” populated into it.
 - b. Vendor Name text box



The screenshot shows a form with two labels: 'From Inventory:' and 'Vendor:'. Next to 'From Inventory:' is a small square checkbox. To the right of 'Vendor:' is a rectangular text input box.

Figure 6-11

3. Once the vendor information has been entered, click the **Add** button again. This will allow you to enter in the materials associated to the audit



The screenshot shows a table with the title 'Materials' in the top left corner and an 'Add' button in the top right corner. The table has five columns: 'Material', 'Quantity', 'Unit', 'Amount', and 'Action'. The 'Material' column contains a dropdown menu. The 'Quantity' and 'Amount' columns contain text input boxes. The 'Unit' column contains a dropdown menu. The 'Action' column contains two buttons: 'Add' and 'Cancel'.

Figure 6-12

4. Once you have completed entering in the data; click the **Add** button one more time; this will add the material to the purchase order you have just created.
5. Click the **Save** button and you will be brought back to the main Purchase Order screen and you will see a high level view of the purchase order you have just created.

ECOS also has the ability to track the *task* that is associated with each material.

6. In order to associate a task to the material click on the **Select** button associated to the material row you are working with

Job History

1. Select Job History from the left side menu

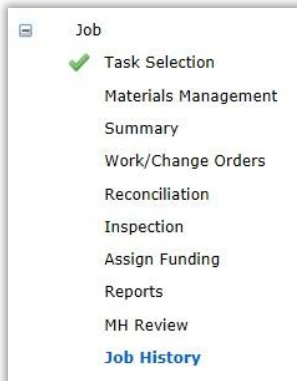


Figure 6-13

2. Review history

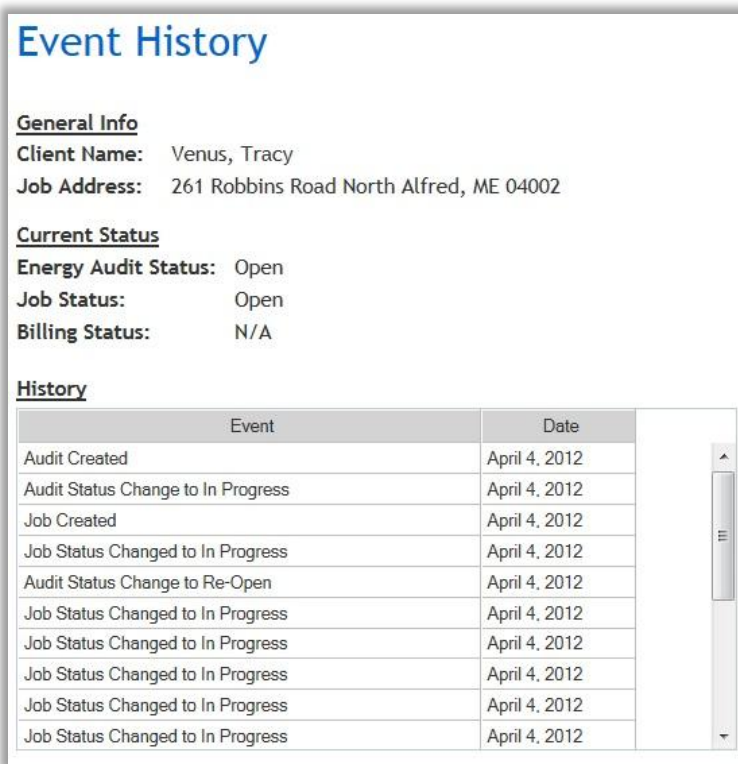


Figure 6-14

Work/Change Orders

The work/change order screen lists all approved tasks that were selected on the task selection screen to be part of either the work or change order.

The work order is generated first and once finalized, the change orders are generated. Both the work and change orders can be previewed before finalized at the user's discretion.

Work Order

To preview the work order:

1. Open the desired job
2. Go to the Work/Change Orders screen

Approved Tasks

Job Info

Owner:	Doe, Jane	Physical Address:	2 Water St, Skowhegan, ME, 04976
Agency:	KVC	Client:	Doe, Jane

Building Segment	Quantity	Task Code	Task
Attic/Ceiling C1	1,600.00 SF	072-101-0025	Insul Cellulose Open 12" R-38
Wall N1A	400.00 SF	072-101-0030	Insul Cellulose Wall
Wall S1A	400.00 SF	072-101-0030	Insul Cellulose Wall
Wall E1A	200.00 SF	072-101-0030	Insul Cellulose Wall
Wall W1A	200.00 SF	072-101-0030	Insul Cellulose Wall
Basement Wall N0A	100.00 SF	072-115-0005	Perimeter Insulation, Spray Foam R-13
Basement Wall S0A	100.00 SF	072-115-0005	Perimeter Insulation, Spray Foam R-13
Basement Wall E0A	80.00 SF	072-115-0005	Perimeter Insulation, Spray Foam R-13
Basement Wall W0A	80.00 SF	072-115-0005	Perimeter Insulation, Spray Foam R-13
N/A	42.00 LF	079-204-0005	Caulking Latex
N/A	12.00 LF	061-102-0025	Framing Pt 2X6
N/A	1.00 EA	168-120-0010	Co Alarm

Figure 6-15

3. Click Preview Work Order

Do you want to open or save **WorkOrder-6-21-2012.pdf** (9.82 KB) from **training.jaisoftware.net**?

Figure 6-16

Note: The internet explorer browser will ask the user to either open or save a copy of the previewed work order, once the preview work order button has been clicked.

Note: If the job has multiple weatherization technicians assigned, the preview work order will list all tasks in one work order. A work order will be created per weatherization technician once the work order has been finalized.

Once the work order is ready to be sent to the weatherization technician(s), click on the finalize work order button.

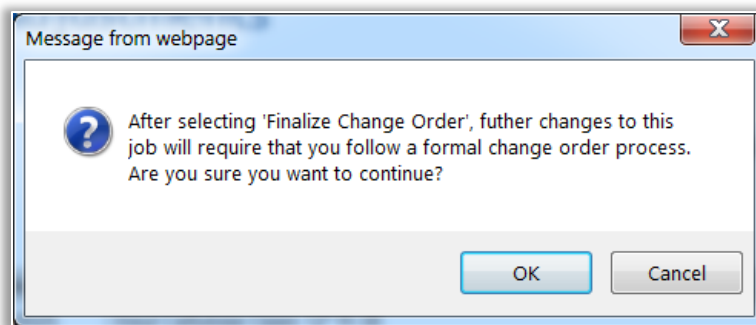


Figure 6-17

Note: The user will be asked to confirm that the finalization should occur, since once the work order has been finalized the work order cannot be changed. All changes past this point will be reflected in the change order.

Once, the work order(s) has been finalized, it can be printed and/or saved from the job reports screen.

Work Orders/Change Orders

Job Info

Owner: Doe, Jane
Agency: KVC

Physical Address: 2 Water St, Skowhegan, ME, 04976
Client: Doe, Jane

Reports

Report Description	Date Created	Weatherization Technician
Work Order - Advance Spray Foam	06/21/2012	Advance Spray Foam
Work Order - Advanced Energy Conservation Systems	06/21/2012	Advanced Energy Conservation Systems
Work Order All	06/21/2012	All
Audit Summary	N/A	
Energy Audit Field Form	N/A	

Print Report

Figure 6-18

Example from work order:

Weatherization Job Summary

Conductive Tasks

Floor 1

Insul Cellulose Wall

Task Code: 072-101-0030

Materials:

CELLULOSE INSULATION ("BORATE ONLY" GRADE)
NECESSARY FASTENERS FOR SIDING / SHEATHING REPLACEMENT
MATERIALS NECESSARY FOR SEALING ACCESS HOLES

Instructions:

Building Segment	Quantity	Cost	Auditor Notes/Instructions
Wall-N1A	400.00 SF	\$900.00	
Wall-S1A	400.00 SF	\$900.00	
Wall-E1A	200.00 SF	\$450.00	
Wall-W1A	200.00 SF	\$450.00	

C1

Insul Cellulose Open 12" R-38

Task Code: 072-101-0025

Materials:

CELLULOSE INSULATION ("BORATE ONLY" GRADE) MATERIALS FOR
NECESSARY DAMMING (AS SPECIFIED PER WORK ORDER)
MAY INCLUDE BUT NOT LIMITED TO ¾" PLYWOOD OR RIGID INSULATION

Instructions:

Building Segment	Quantity	Cost	Auditor Notes/Instructions
Attic/Ceiling-C1	1600.00 SF	\$2,400.00	

Figure 6-19

Change Order

If a change needs to be made to finalized work order(s), the user will first go to the audit and make the appropriate change(s), and then follow the same workflow as when the work order was generated: The change order can be previewed and finalized when ready.

In the energy audit section, once the work order has been finalized, a new screen will be available: changes/adjustments. This screen will list the changes made past the point to where the work order was finalized.

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Changes/Adjustments					
	Building Segment	Quantity	Task Code	Task Name	Approved By
		2.00	079-204-0015	Caulking Foam	System
		4.00	087-134-0005	Window Sash Locks	System

Figure 6-20

Note: The approval for these changes will be recorded on this screen.

Changes/Adjustments

	Building Segment	Quantity	Task Code	Task Name	Approved By
		2.00	079-204-0015	Caulking Foam	System
▶		4.00	087-134-0005	Window Sash Locks	System

Change Details

Approval Type
Auditor Approved
Approved By
System

Approval Date
9/26/2012
Approval Reason
Changed Technician

Task Change

New Quantity
4.00
Old Quantity
2.00

New Task Code
087-134-0005
Old Task Code
087-134-0005

New Task Name
Window Sash Locks
Old Task Name
Window Sash Locks

Save Approval

Change Details

Approval Type
Approval Date

Task Change
New Quantity
New Task Code

Contractor Invoiced
Auditor Approved
Inspector Approved
Monitor Approved
DOE Approved

Figure 6-21

Note: Changes to existing building segments will be assumed as selection screen. However, changes that include the generation of new tasks will need to be approved manually (on the job task selection screen) before they will appear on the change order.

The following example illustrates that a task that is not checked off as approved does not show up as a change:

Mechanical System Tasks

	Task	AFUE Savings	Carbon Savings (lbs)	Total Cost	SIR	Approved
	Combustion Testing And Evaluation	137.00	3,066.06	\$250.00	2.45	☒
	Boiler Reset Controls	84.00	1,879.92	\$250.00	9.95	☐

Figure 6-22

Approved Changes/Adjustments

Job Info

Owner: Simmons, Peter
Agency: KVC

Physical Address: 15 Elm St, Skowhegan, ME, 04976
Client: Simmons, Peter

Preview Change Order

Finalize Change Order

Building Segment	Quantity	Task Code	Task
Attic/Ceiling C1	100.00 SF	072-101-0025	Insul Cellulose Open 12" R-38

Figure 6-23

The following example illustrates that a task that is checked off as approved shows up as a change:

Mechanical System Tasks

	Task	AFUE Savings	Carbon Savings (lbs)	Total Cost	SIR	Approved
	Combustion Testing And Evaluation	137.00	3,066.06	\$250.00	2.45	☒
	Boiler Reset Controls	84.00	1,879.92	\$250.00	9.95	☒

Figure 6-24

Approved Changes/Adjustments

Job Info

Owner:	Simmons, Peter	Physical Address:	15 Elm St, Skovhagan, ME, 04976
Agency:	KVC	Client:	Simmons, Peter

Building Segment	Quantity	Task Code	Task
Attic/Ceiling C1	100.00 SF	072-101-0025	Insul Cellulose Open 12" R-38
N/A	1.00 EA	155-120-0040	Boiler Reset Controls

Figure 6-25

Once the change order has been finalized, a new change order will be created if further changes are made.

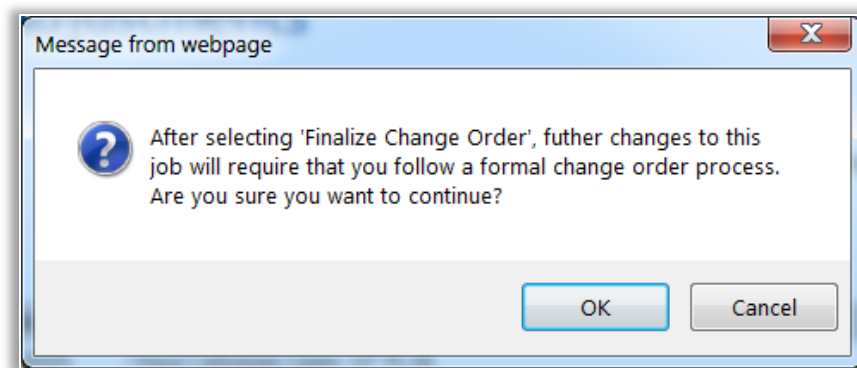


Figure 6-26

Note: The finalized change orders can be printed on the job reports screen, and the change orders will be chronologically numbered to reflect finalized change order. Change order 1 represents the first change made.

Work Orders/Change Orders

Job Info

Owner: Simmons, Peter
Agency: KVC

Physical Address: 15 Elm St, Skowhegan, ME, 04976
Client: Simmons, Peter

Reports

Report Description	Date Created	Weatherization Technician
Work Order - Advance Spray Foam	06/14/2012	Advance Spray Foam
Work Order - Advanced Energy Conservation Systems	06/14/2012	Advanced Energy Conservation Systems
Change Order 1 - Advance Spray Foam	06/21/2012	Advance Spray Foam
Change Order 1 - Advanced Energy Conservation Systems	06/21/2012	Advanced Energy Conservation Systems
Work Order All	06/14/2012	All
Audit Summary	N/A	
Energy Audit Field Form	N/A	

Print Report

Figure 6-27

Example from change order:

The Contractor obtained authorization to make the following work changes to the above dated Work Order.

155-120-0040 - Boiler Reset Controls		Quantity
Original Work Order Quantity		0.00
Sum of Previous Changes		N/A
This Change Order Add (Deduct)		1.00
Revised Quantity		1.00
Date Approved		
Instructions		
Materials		
BOILER TEMPERATURE RESET CONTROLLER, OUTDOOR TEMPERATURE SENSOR AND ALL NECESSARY ACCESSORIES AND PIPING TO COMPLETE THE INSTALLATION OF THE CONTRO		\$250.00

Figure 6-28

Reconciliation

This process begins once the CAA has received the invoice for the completed tasks

1. Select Reconciliation from left side menu (this process begins once all tasks have been finalized)
2. Enter in the actual completed tasks by checking off the *reconciled* checkbox

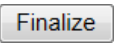
The screenshot displays a software interface for task reconciliation. It features two main tables: 'System Determined Tasks' and 'Auditor Determined Tasks'. Both tables have columns for 'Building Segment - Task', 'WxTechnician', 'Current Quantity', 'Current Cost', 'Invoiced Quantity', 'Invoiced Cost', and 'Reconciled'. The 'Reconciled' column contains checkboxes. In the 'System Determined Tasks' table, the row for 'Insul Cellulose Open 12" R-38 - Attic/Ceiling Attic' is highlighted in blue and has its checkbox checked. In the 'Auditor Determined Tasks' table, the row for 'Caulking Silicone - Unknown' is highlighted in blue and has its checkbox checked. A 'Finalize' button is located at the bottom left of the interface.

Building Segment - Task	WxTechnician	Current Quantity	Current Cost	Invoiced Quantity	Invoiced Cost	Reconciled
Cfl Bulbs - 19 Watts And Higher - Other	Advanced Energy Conservation Systems	16.00 EA	\$160.00	16.00 EA	\$160.00	☒
▶ Insul Cellulose Open 12" R-38 - Attic/Ceiling Attic	Advanced Energy Conservation Systems	950.00 SF	\$1,425.00	0.00 SF	\$0.00	☒
Insul Cellulose Wall - Wall NE1A	Advanced Energy Conservation Systems	267.37 SF	\$601.58	267.37 SF	\$601.58	☒
Insul Cellulose Wall - Wall SE1A	Advanced Energy Conservation Systems	133.91 SF	\$301.30	133.91 SF	\$301.30	☒
Insul Cellulose Wall - Wall SW1A	Advanced Energy Conservation Systems	267.44 SF	\$601.74	267.44 SF	\$601.74	☒
Insul Cellulose Wall - Wall NW1A	Advanced Energy Conservation Systems	164.88 SF	\$370.98	164.88 SF	\$370.98	☒
Wall Insulation, box sills/joists R-13 - Wall NE0A	Advanced Energy Conservation Systems	40.00 SF	\$0.00	40.00 SF	\$0.00	☒

Building Segment - Task	WxTechnician	Current Quantity	Current Cost	Invoiced Quantity	Invoiced Cost	Reconciled
Caulking Foam - Unknown	Advanced Energy Conservation Systems	10.00 EA	\$220.00	0.00 EA	\$0.00	☐
Incidental Repair - General Labor - Unknown	Advanced Energy Conservation Systems	8.00 Hrs	\$296.00	8.00 Hrs	\$296.00	☒
▶ Caulking Silicone - Unknown	Advanced Energy Conservation Systems	50.00 LF	\$15.00	50.00 LF	\$15.00	☒
Chimney By-Pass Sheet Metal - Unknown	Advanced Energy Conservation Systems	8.00 SF	\$60.00	0.00 SF	\$0.00	☐

Finalize

Figure 6-29

3. Once you have entered in the tasks that have been completed; click the  button
4. The screen will now show only tasks which have not yet been reconciled

Inspection

From this screen you can add an inspection each time one is completed. There are two types of inspection; in progress and final.

- a. In Progress: When an in progress audit is added you will enter in the inspector name and inspection dates. You will have the ability to enter in any necessary inspection comments. This is for use in any inspections PRIOR to the final inspection.

In Progress Inspection Summary

General Info

Client Name: Julia Yellow
 Job Address: 449 Lincoln Terrace Gotts Island, Maine
 Job ID: 0000000233
 Energy Audit Status: Complete

Inspection Information

Inspection Type:
 Inspector: Cyan, Abraham
 Inspection Date: 06/02/2010

Inspection Comments:

Save Cancel

Figure 6-30

- b. Final: When the final inspection is done you will *add* an inspection with the type of 'Final'. From here you will enter in all post inspection values

Inspection Final Summary

General Info

Client Name: Julia Yellow
 Job Address: 449 Lincoln Terrace Gotts Island, Maine
 Job ID: 0000000233
 Energy Audit Status: Complete

Auditor comment:

Inspection Information

Inspection Type:
 Inspector: Purple, Fred
 Inspection Date: 09/20/2012

Inspection Comments:

Save

Tasks

Task Code	Task	Category	Estimate	Invoiced	Inspected	Status	Action
072-101-0030	Insul Cellulose Wall	Conductive	0.00 SF	0.00 SF	0.00 SF	Fail	Select
072-106-0010	Insul Fglas Floor 6X16	Conductive	0.00 SF	0.00 SF	0.00 SF	Pending	Select

Figure 6-31

Summary

1. Select Inspection from left side menu
2. Click the **Update** button associated to the inspection you wish to view

Inspections						
Inspector	Inspection Date	Inspection Type	Result	Status	Action	
Abraham Cyan	1/1/2011	In Progress		In Progress	Update	Delete

Figure 6-32

3. This screen will show the client general information (name, address, id, audit status), and inspection information (inspection type, inspector name, inspection date, and inspector comments).

Assign Post Values

1. Select Inspection from left side menu
2. Click the button associated to the final audit you wish to update
3. Click on the *Blower Door Test* link on the left hand menu



Figure 6-33

4. Enter in the necessary Post-Wx values

	Pre-Wx	In Progress
Tester Name	Cyan, Ashley	
Test Date	9/20/2012	
Test CFM50	4,000	
Test Conditions	Sunny	
Flow Exponent	0.65	0.65
Outdoor Temperature	70 Degrees F	
Heat Loss in BTUs	32,336,111	
Total CFM50 Reduction		
Heat Loss Savings BTUs		
Heat Loss Savings Units		gal Oil
Heat Loss Savings Dollars		

Figure 6-34

5. Click
6. Continue through the remaining sections
 - a. Heating System
 - b. Hot Water
 - c. Duct Work Assessment
 - d. Duct Leakage

Inspecting Tasks

1. Click the button associated to the final audit you wish to update
2. Click the button next to the TASK you wish to mark as inspected
3. Enter in the necessary Post-Wx values

Tasks							
Task Code	Task	Category	Estimate	Invoiced	Inspected	Status	Action
072-101-0030	Insul Cellulose Wall	Conductive	1264.00 SF	0.00 SF	0.00 SF	Pending	Select
072-118-0016	Insul Fglas Wall 6X16 R-19	Conductive	400.00 SF	0.00 SF	0.00 SF	Pending	Select
072-101-0020	Insul Cellulose Open 10" R-30	Conductive	1500.00 SF	0.00 SF	0.00 SF	Pending	Select
061-102-0025	Framing Pt 2X6	Incidental Repairs	11.00 LF	0.00 LF	0.00 LF	Pending	Select

Figure 6-35

4. This will highlight the row and populate the *segments* associated to that task lower on the screen

- Click the **Select** button next to the SEGMENT you will be updating

Building Segment	Task Code	Task Name	Estimate	Inspected	Status	
Wall N1A	072-101-0030	Insul Cellulose Wall	384.00 SF	0 SF	Pending	0 Edit Pass
Wall S1A	072-101-0030	Insul Cellulose Wall	380.00 SF	0 SF	Pending	Select
Wall E1A	072-101-0030	Insul Cellulose Wall	250.00 SF	0 SF	Pending	Select
Wall W1A	072-101-0030	Insul Cellulose Wall	250.00 SF	0 SF	Pending	Select

Figure 6-36

- Enter in the inspected amount (in this example you would enter in the amount of square feet associated with Wall N1A)
- If rework is necessary click on the **Rework** button
- Enter in any necessary information

Building Segment	Task Code	Task Name	Estimate	Inspected	Status	
Wall N1A	072-101-0030	Insul Cellulose Wall	384.00 SF	381.00 SF	Pass	Select
Wall S1A	072-101-0030	Insul Cellulose Wall	380.00 SF	384.00 SF	Pass	Select
Wall E1A	072-101-0030	Insul Cellulose Wall	250.00 SF	250.00 SF	Pending	Select
Wall W1A	072-101-0030	Insul Cellulose Wall	250.00 SF	0 SF	Pending	0 Edit Pass

Date Entered	Notes	Action
09/20/2012	Add rework to Wall W1A Segment	Update Cancel

Figure 6-37

- Click **Update** when you have completed entering in the information
- Repeat for each item inspected

Finalize

To finalize an existing inspection you will click on the (FINALIZE INSPECTION BUTTON) once all of the necessary tasks have passed inspection, funding has been assigned to the job, and all post weatherization data has been entered for:

- a. Blower Door
- b. Heating System
- c. Hot Water
- d. Duct Work Assessment
- e. Duct Leakage

Funding Source

Click on the Assign Funding link on the left menu

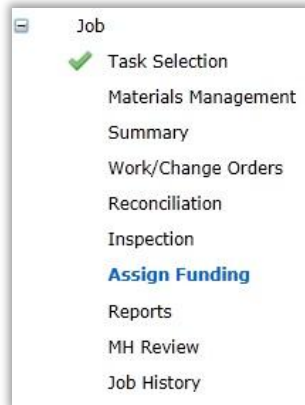


Figure 6-38

You can assign funding sources in two ways:

You can select the funding source from the 'Change All Funding Sources To:' drop down and click the

 button. This will apply single funding source to all tasks.

To assign a different funding source to all tasks:

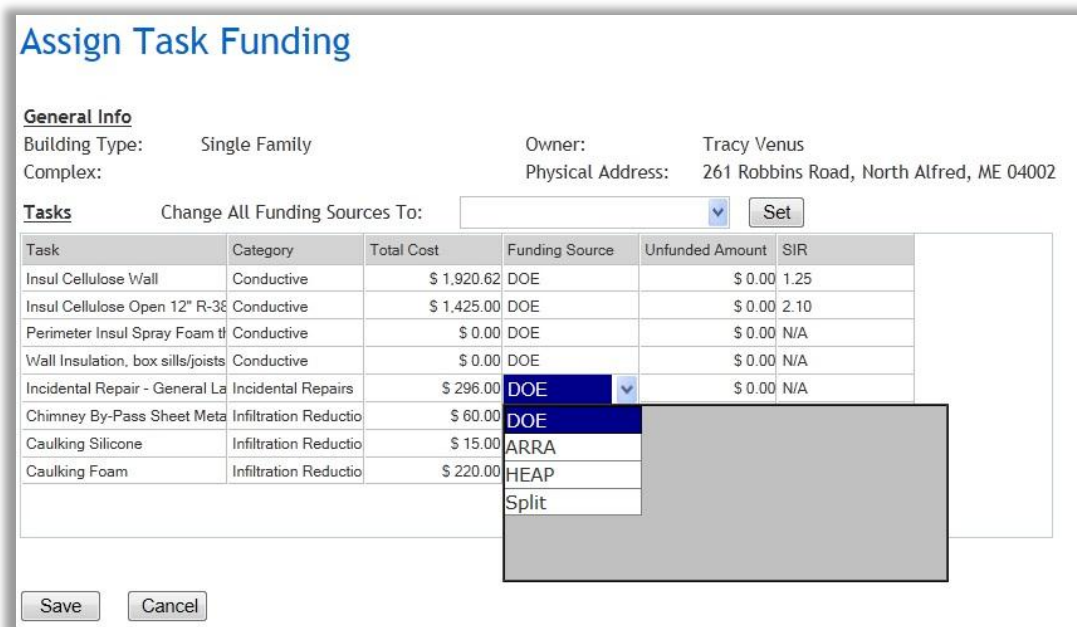
The 'Assign Task Funding' window displays general information about a building and a table of tasks. The 'General Info' section shows 'Building Type: Single Family', 'Owner: Tracy Venus', and 'Physical Address: 261 Robbins Road, North Alfred, ME 04002'. The 'Tasks' section has a 'Change All Funding Sources To:' dropdown menu with a 'Set' button. A table lists tasks with columns for Task, Category, Total Cost, and Funding Source. A dropdown menu is open over the table, showing options: DOE, ARRA, and HEAP.

Task	Category	Total Cost	Funding Source
Insul Cellulose Wall	Conductive	\$ 1.3	DOE
Insul Cellulose Open 12" R-35	Conductive	\$ 1.4	ARRA
Perimeter Insul Spray Foam ti	Conductive		HEAP
Wall Insulation, box sills/joists	Conductive		
Incidental Repair - General La	Incidental Repairs	\$ 2	
Chimney By-Pass Sheet Meta	Infiltration Reductio	\$ 60.00	DOE
Caulking Silicone	Infiltration Reductio	\$ 15.00	DOE
Caulking Foam	Infiltration Reductio	\$ 220.00	DOE

Figure 6-39

To apply Individual Funding Sources per task

1. Double click the funding source cell associated to the task you wish to assign an individual funding source to
2. Select the funding source from the available dropdown
3. Click the  button



The screenshot shows a software window titled "Assign Task Funding". It contains a "General Info" section with fields for Building Type (Single Family), Owner (Tracy Venus), and Physical Address (261 Robbins Road, North Alfred, ME 04002). Below this is a "Tasks" section with a dropdown menu to "Change All Funding Sources To:" and a "Set" button. A table lists tasks with columns for Task, Category, Total Cost, Funding Source, Unfunded Amount, and SIR. The "Incidental Repair - General La" row is selected, and a dropdown menu is open showing options: DOE, ARRA, HEAP, and Split. At the bottom are "Save" and "Cancel" buttons.

Task	Category	Total Cost	Funding Source	Unfunded Amount	SIR
Insul Cellulose Wall	Conductive	\$ 1,920.62	DOE	\$ 0.00	1.25
Insul Cellulose Open 12" R-38	Conductive	\$ 1,425.00	DOE	\$ 0.00	2.10
Perimeter Insul Spray Foam th	Conductive	\$ 0.00	DOE	\$ 0.00	N/A
Wall Insulation, box sills/joists	Conductive	\$ 0.00	DOE	\$ 0.00	N/A
Incidental Repair - General La	Incidental Repairs	\$ 296.00	DOE	\$ 0.00	N/A
Chimney By-Pass Sheet Meta	Infiltration Reductio	\$ 60.00	DOE		
Caulking Silicone	Infiltration Reductio	\$ 15.00	ARRA		
Caulking Foam	Infiltration Reductio	\$ 220.00	HEAP		
			Split		

Figure 6-40

The top table, "Tasks" lists all of the tasks for the job.

NOTE: The default funding source assigned under Program Admin > Funding Sources, will automatically be assigned to all tasks.

Add multiple funding sources to a task

The user can split a task (or all tasks) to be funded by multiple funding sources:

1. Select the task to be split – double click into the funding sources column

Assign Task Funding

Tasks Change All Funding Sources To: Set

Task	Category	Total Cost	Funding Source	Unfunded Amount
Insul Cellulose Open 10" R-30	Conduction	\$ 1,965.60	DOE	\$ 0.00
Insul Cellulose Wall	Conduction	\$ 184.00	DropDownName DOE HEAP Weather ARRA Split	
Insul Cellulose Wall	Conduction	\$ 115.00		
Insul Cellulose Wall	Conduction	\$ 184.00		
Insul Cellulose Wall	Conduction	\$ 115.00		
Insul Cellulose Wall	Conduction	\$ 92.00		
Insul Cellulose Wall	Conduction	\$ 57.50		
Insul Cellulose Wall	Conduction	\$ 92.00	DOE	\$ 0.00
Insul Cellulose Wall	Conduction	\$ 57.50	DOE	\$ 0.00

Figure 6-41

2. Select Split option in the 'Change All Funding Sources To:' drop down
3. Hit the tab key on the keyboard

General Info

Client Name Purple, Bob
Job Address 6338 Mercury Street Windsor, ME 04363

Tasks Change All Funding Sources To: Set

Task	Category	Total Cost	Funding Source	Unfunded Amount	SIR
Insul Cellulose Open 10" R-30	Conduction	\$ 1,050.00	Split	\$ 0.00	1.0000
Insul Cellulose Open 12" R-38	Conduction	\$ 405.00	DOE	\$ 0.00	11.0000
Insul Cellulose Open 12" R-38	Conduction	\$ 40.50	DOE	\$ 0.00	11.0000
Insul Cellulose Wall	Conduction	\$ 179.80	DOE	\$ 0.00	2.0000
Insul Cellulose Wall	Conduction	\$ 29.00	DOE	\$ 0.00	2.0000
Insul Cellulose Wall	Conduction	\$ 58.00	DOE	\$ 0.00	2.0000
Insul Cellulose Wall	Conduction	\$ 92.80	DOE	\$ 0.00	2.0000
Insul Cellulose Wall	Conduction	\$ 55.10	DOE	\$ 0.00	2.0000
Insul Cellulose Wall	Conduction	\$ 55.10	DOE	\$ 0.00	2.0000

Add Delete

Funding Source	Amount	% of Total Task
DOE	\$ 1,050.00	100

Figure 6-7

4. Click the **Add** button
5. Double click into the empty cell for the funding source and select the appropriate funding source

Funding Source	Amount	% of Total Task
DOE	\$ 1,965.60	100

DropDownName
 DOE
HEAP Weather
 ARRA
 Split

Figure 6-43

6. Next, either assign the percentage- or amount split

Funding Source	Amount	% of Total Task
DOE	\$ 982.80	50
HEAP Weather	\$ 982.80	50

Figure 6-44

7. Click the **Save** button to finish

NOTE: If the user has entered a minimum SIR for the funding source—i.e. minimum allowable SIR of 1.00—then ECOS will highlight the row in red where the SIR is below the minimum allowed SIR, display a message stating “There are tasks that are funded by Funding sources with a minimum SIR that they do not meet”, and will not allow the user to save:

Assign Task Funding

- There are tasks that are funded by Funding sources with a minimum SIR that they do not meet.

General Info

Client Name Smith, Charles
Job Address 50 Elm St Skowhegan, ME 04976

Tasks

Change All Funding Sources To:



Set

Task	Category	Total Cost	Funding Source	Unfunded Amount	SIR
Insul Fglas Blown Mh Walls	Conduction	\$ 655.20	DOE	\$ 0.00	9.7919
Doors Insulated Metal Entranc	Conduction	\$ 510.00	DOE	\$ 0.00	0.0000

Figure 6-45

NOTE: If the user has stated that two funding sources cannot be used within the same job under the program admin > funding sources screen—i.e. DOE and ARRA—then ECOS will not allow the user to save and display a message stating “There are tasks that are using conflicting funding sources. Please change the funding sources before saving”:

Assign Task Funding

- There are tasks that are using conflicting funding sources. Please change the funding sources before saving.

General Info

Client Name Purple, Bob
Job Address 6338 Mercury Street Windsor, ME 04363

Tasks

Change All Funding Sources To:



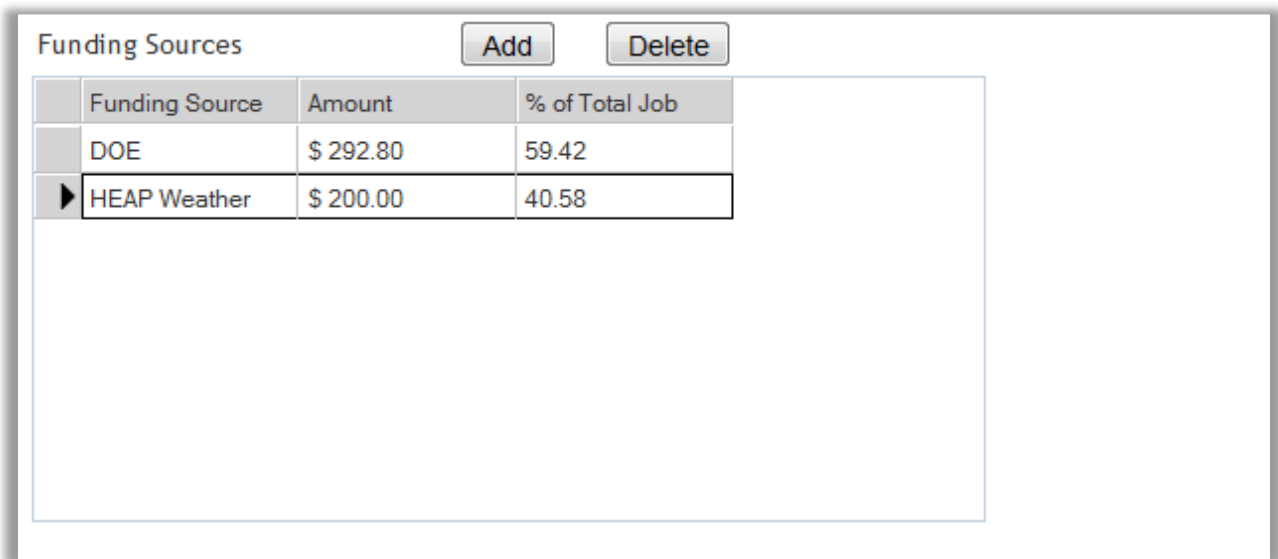
Set

Task	Category	Total Cost	Funding Source	Unfunded Amount	SIR
Insul Cellulose Open 10" R-30	Conduction	\$ 1,050.00	ARRA	\$ 0.00	1.0239
Insul Cellulose Open 12" R-38	Conduction	\$ 405.00	DOE	\$ 0.00	10.1049
Insul Cellulose Open 12" R-38	Conduction	\$ 40.50	DOE	\$ 0.00	10.2762
Insul Cellulose Wall	Conduction	\$ 179.80	DOE	\$ 0.00	2.3147
Insul Cellulose Wall	Conduction	\$ 29.00	DOE	\$ 0.00	2.3917
Insul Cellulose Wall	Conduction	\$ 58.00	DOE	\$ 0.00	2.3918
Insul Cellulose Wall	Conduction	\$ 92.80	DOE	\$ 0.00	2.2423
Insul Cellulose Wall	Conduction	\$ 55.10	DOE	\$ 0.00	2.5177
Insul Cellulose Wall	Conduction	\$ 55.10	DOE	\$ 0.00	2.5177

Figure 6-46

Delete a Funding Source from a Split Task

In order to delete a funding source from a split task, the user must first select the source to be deleted.

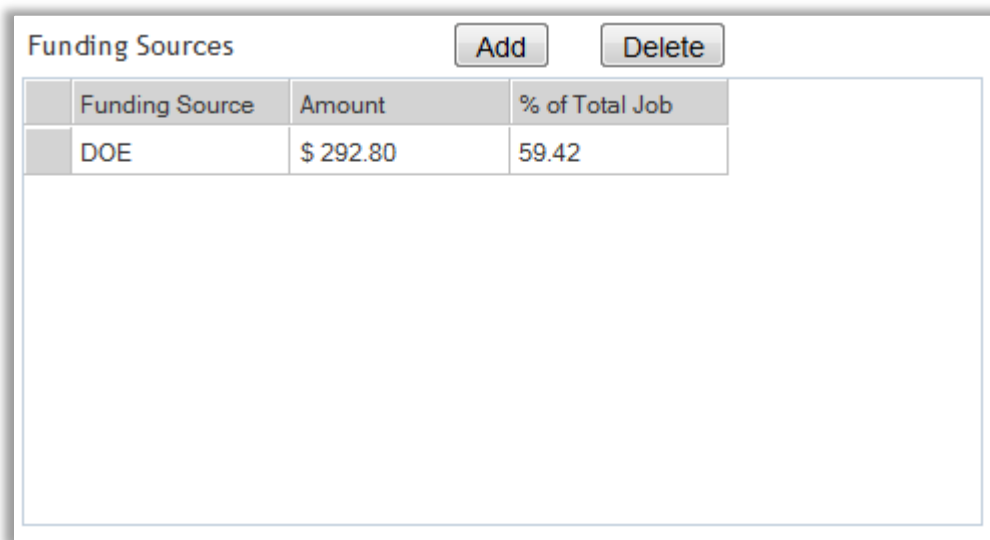


The screenshot shows a window titled "Funding Sources" with two buttons, "Add" and "Delete", at the top right. Below the buttons is a table with three columns: "Funding Source", "Amount", and "% of Total Job". The table contains two rows: "DOE" with an amount of "\$ 292.80" and a percentage of "59.42", and "HEAP Weather" with an amount of "\$ 200.00" and a percentage of "40.58". The "HEAP Weather" row is selected, indicated by a black arrow icon in the first column of that row.

	Funding Source	Amount	% of Total Job
	DOE	\$ 292.80	59.42
▶	HEAP Weather	\$ 200.00	40.58

Figure 6-47

Then, press the **Delete** button. It is important to note that the amounts must be adjusted among the remaining funding sources to cover the full cost of the task.



The screenshot shows the same "Funding Sources" window, but now only one funding source, "DOE", is listed in the table. The "HEAP Weather" row has been removed. The "Add" and "Delete" buttons are still present at the top right.

	Funding Source	Amount	% of Total Job
	DOE	\$ 292.80	59.42

Figure 6-48

7. Billing (CAA)

Create Billing Group

Select Billing from the left side menu

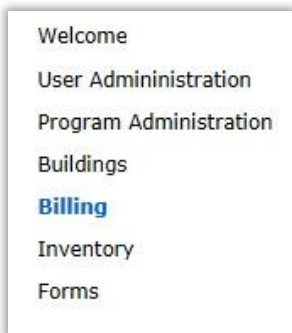


Figure 7-1

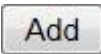
Click the  button

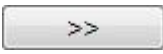


Figure 7-2

Assign Job to Billing Group

Enter in a Billing Group Name

Click on the jobs (highlighting it) under *Inspected Jobs Ready for Billing Group Assignment* that you wish to assign to the requested billing group

- To add a single job to the billing group click the  button
- To add *all* available jobs to the billing group click the  button

Billing Group Detail

Save Cancel

Billing Group Name
Billing Group 1 - Test *

Inspected Jobs Ready for Billing Group Assignment

Job ID	Name	Amount	Job Bill Status
0000000233	Green, Mick	\$ 1,680.20	

>>
 >
 <
 <<

Billing Group Status
In Progress

Jobs Assigned to Billing Group

Job ID	Name	Amount	Job Bill Status	Comp Review	Tech Review
--------	------	--------	-----------------	-------------	-------------

Submit Bill

Figure 7-3

Click the  button to add the job to the group

Billing Group Detail

Save Cancel

Billing Group Name
Billing Group 1 - Test *

Inspected Jobs Ready for Billing Group Assignment

Job ID	Name	Amount	Job Bill Status
--------	------	--------	-----------------

>>
 >
 <
 <<

Billing Group Status
In Progress

Jobs Assigned to Billing Group

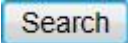
Job ID	Name	Amount	Job Bill Status	Comp Review	Tech Review
0000000233	Green, Mick	\$ 1,680.20		Pending	Pending

Submit Bill

Figure 7-4

Click the  button

Un-assign job from Billing Group

1. Search for the required billing group by entering in part (or all) of the Billing Group Name (Note: you can also leave this blank and all groups will appear in the results)
2. Select the  button

Billing Groups

Billing Group Name

Agency	Billing Group Name	Billing Group Status
KVCAP	Billing Group 1 - Test	Pending

Figure 7-5

3. Select the billing group name and click the button

Billing Groups

Billing Group Name

KVCAP	Billing Group 1 - Test	Pending
-------	------------------------	---------

Figure 7-6

4. This will bring you to the billing group detail screen

Billing Group Detail

Save Cancel

Billing Group Name
Billing Group 1 - Test *

Billing Group Status
Pending

Inspected Jobs Ready for Billing Group Assignment

Job ID	Name	Amount	Job Bill Status
--------	------	--------	-----------------

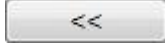
>> > < <<

Jobs Assigned to Billing Group

Job ID	Name	Amount	Job Bill Status	Comp Review	Tech Review
0000000233	Green, Mick	\$ 1,680.20			

Submit Bill

Figure 7-7

5. Click on the job (highlighting it) under *Jobs assigned to Billing Group* that you wish to remove from the billing group
 - a. To remove a single job to the billing group click the  button
 - b. To remove *all* available jobs to the billing group click the  button

Billing Group Detail

Save Cancel

Billing Group Name
Billing Group 1 - Test *

Billing Group Status
Pending

Inspected Jobs Ready for Billing Group Assignment

Job ID	Name	Amount	Job Bill Status
--------	------	--------	-----------------

>> > < <<

Jobs Assigned to Billing Group

Job ID	Name	Amount	Job Bill Status	Comp Review	Tech Review
0000000233	Green, Mick	\$ 1,680.20			

Submit Bill

Figure 7-8

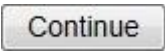
Submit Billing

1. Once all of the jobs have been moved to either *Jobs Assigned to Billing Group* or *Inspected Jobs Ready for Billing Group Assignment* click the  button
2. The lower portion of the screen will now ask you to confirm that the bill is ready to be submitted

*Continue with Billing Submit

Continue Cancel Submit

Figure 7-9

3. Click the  button to proceed with the billing process
 - a. Click the  button if the submit button was initially selected in error
4. Once the Billing Group has been submitted; the Billing Group Status will now show as *Billed*



Billing Group Status

Billed

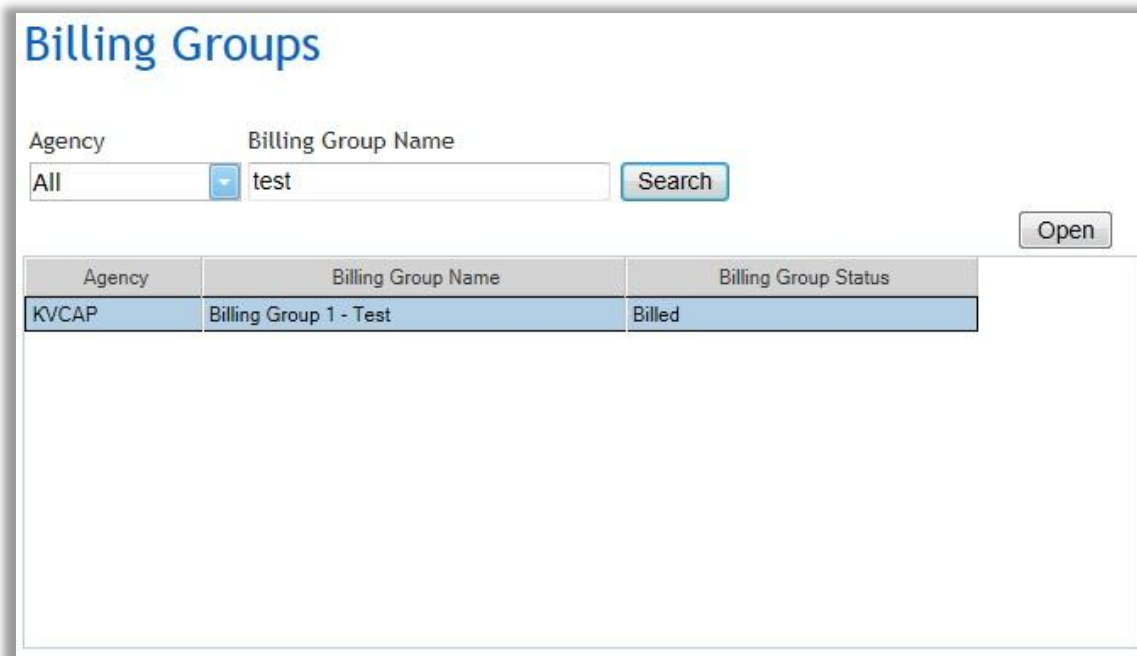
Figure 7-10

8. Billing (MH)

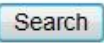
Review Billing Job

This is how you will review the job as a MH staff member.

Enter in search criteria and select the  button (or leave fields blank and click the search button to see all results)



Billing Groups

Agency: Billing Group Name: 



Agency	Billing Group Name	Billing Group Status
KVCAP	Billing Group 1 - Test	Billed

Figure 8-1

1. Highlight the billing group you will be modifying
2. Click the  button
3. Highlight the job you wish to review and click the  button on the lower right of the screen

Billing Group Detail

Billing Group Name:

Billing Group Status:

Inspected Jobs Ready for Billing Group Assignment

Job ID	Name	Amount	Job Bill Status

>>
 >
 <
 <<

Jobs Assigned to Billing Group

Job ID	Name	Amount	Job Bill Status	Comp Review	Tech Review
0000000234	Simmons, Peter	\$ 5,497.52	Billed	Pending	Pending

Figure 8-2

- Fill in necessary comments, update review status, etc.

MaineHousing Review

General Info

Building Type: Single Family Client: Peter Simmons

Complex: Physical Address: 10 Elm St, Skowhegan, ME 04976

Agency: KVC

Review Status

Billing Group: Billed

Job Billing: Billed

Technical Review:

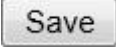
Compliance Review:

Comments

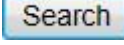
Reviewer	Date Added	Reviewer Comment

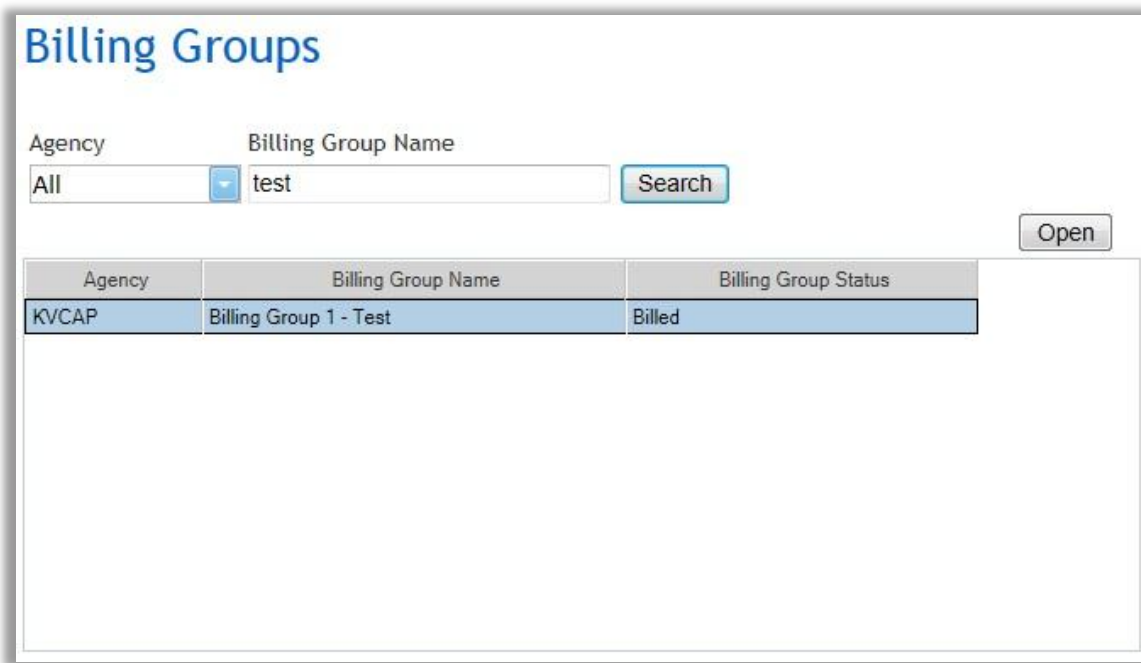
Comment

Figure 8-3

5. Click the  button and then you can return back to the billing screen

Re-open Billing

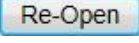
To re-open a billing group, first enter in search criteria and select the  button (or leave fields blank and click the search button to see all results)



The screenshot shows a web interface titled "Billing Groups". It features a search section with two input fields: "Agency" (containing "All") and "Billing Group Name" (containing "test"). A "Search" button is to the right of these fields. Below the search section is a table with three columns: "Agency", "Billing Group Name", and "Billing Group Status". The table contains one row with the values "KVCAP", "Billing Group 1 - Test", and "Billed". To the right of the table is an "Open" button.

Agency	Billing Group Name	Billing Group Status
KVCAP	Billing Group 1 - Test	Billed

Figure 8-4

1. Highlight the billing group you will be modifying
2. Click the  button
3. Once on the Billing Group Detail screen click the  button

Billing Group Detail

Re-Open ←

Pass Financial Review Save Cancel

Billing Group Name: October 2012 *

Billing Group Status: Billed

Inspected Jobs Ready for Billing Group Assignment

Job ID	Name	Amount	Job Bill Status

>> > < <<

Jobs Assigned to Billing Group

Job ID	Name	Amount	Job Bill Status	Comp Review	Tech Review
0000000234	Simmons, Peter	\$ 5,497.52	Billed	Pending	Pending

Review

Figure 8-5

4. Enter in necessary Reopen information

ReOpenBillingGroup

Billing Group Name: October 2012

Agency: KVC

Date Billed: 10/1/2012

Notes:

Save Cancel

Figure 8-6

Once you Click the **Save** button, the billing group will have been reopened and ready for modifications

Pass Review

To pass review on a billing group, you will first enter in search criteria and select the **Search** button (or leave fields blank and click the search button to see all results)

Billing Groups

Agency Billing Group Name

Agency	Billing Group Name	Billing Group Status
KVCAP	Billing Group 1 - Test	Billed

Figure 8-7

1. Highlight the billing group you will be modifying
2. Click the button
3. Once on the Billing Group Detail screen click the button

Billing Group Detail

Billing Group Name

Billing Group Status

Inspected Jobs Ready for Billing Group Assignment

Job ID	Name	Amount	Job Bill Status
--------	------	--------	-----------------

>>
>
<
<<

Jobs Assigned to Billing Group

Job ID	Name	Amount	Job Bill Status	Comp Review	Tech Review
0000000234	Simmons, Peter	\$ 5,497.52	Billed	Pending	Pending

Figure 8-8

Mark as Paid

Once an item has passed financial review the option to *Mark as Paid* appears

Billing Group Detail

Billing Group Name: October 2012

Inspected Jobs Ready for Billing Group Assignment

Job ID	Name	Amount	Job Bill Status
--------	------	--------	-----------------

>> > < <<

Billing Group Status: PassFinancialReview

Jobs Assigned to Billing Group

Job ID	Name	Amount	Job Bill Status	Comp Review	Tech Review
0000000232	Uranus, Gordon	\$ 3,790.10	Billed	Approved	Approved

Review

Figure 8-9

1. Click the **Paid** button
2. Click **Save**

9. Blank Reports

From the Main Menu, a user can navigate to the Blank Reports section of the system.

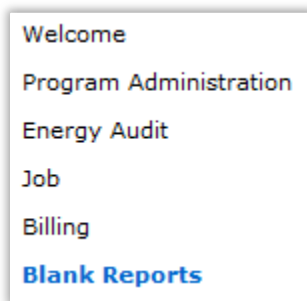
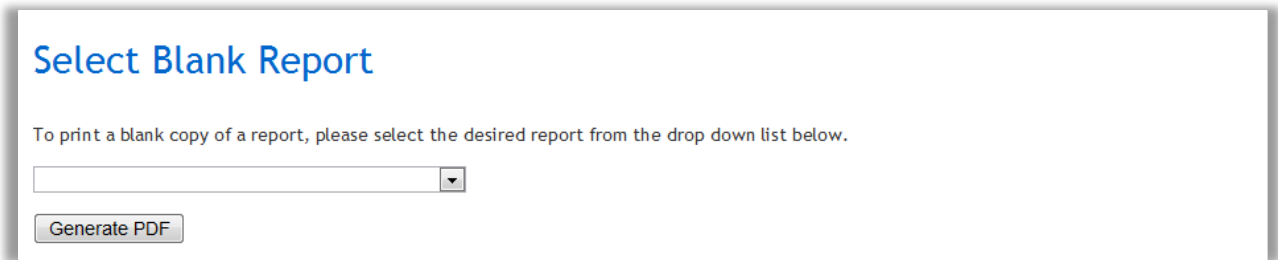


Figure 9-1

This will bring the user to the Select Blank Report screen.

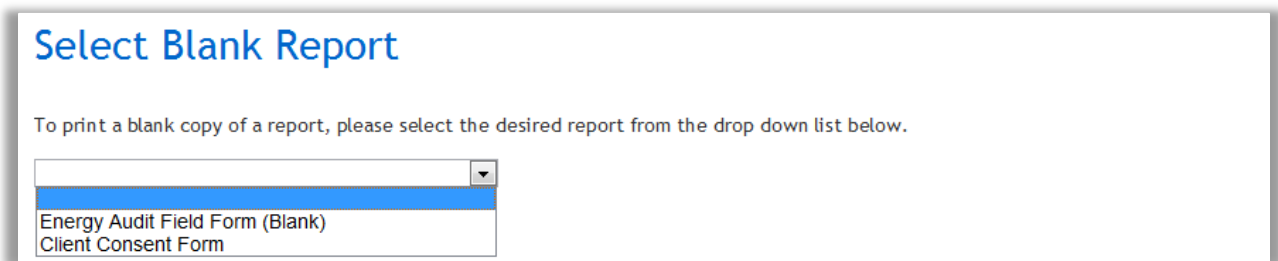


Select Blank Report

To print a blank copy of a report, please select the desired report from the drop down list below.

Figure 9-2

Utilize the drop down to list the available reports



Select Blank Report

To print a blank copy of a report, please select the desired report from the drop down list below.

- Energy Audit Field Form (Blank)
- Client Consent Form

Figure 9-3

Once a report is selected, click the button in order to generate the report.

Energy Audit Field Form

Selecting the Energy Audit Field form generates a blank field form. This is designed for printing in order to have hard copies available on site at audits.

Client Consent Form

This is for printing hard copy client consent forms to be signed.